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roblems of Economics

Selected Articles from Soviet Economics Journals in English Translation

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B. Smekhov: Capital Investments and Rates of Expanded Production (Voprosy Ekonomiki, No. 2, 1960)

D. Karpukhin: Relationship Between the Increase in Labor Productivity and Wages in the Seven-Year Plan Period (Planovoe Khoziaistvo, No. 1, 1960)

I. G. Kurakov: New Problems of the Organization of Socialist Production (Voprosy Filosofii, No. 1, 1960)

F. Bystrov: The Organization of International Settlements Among Socialist Countries (Voprosy Ekonomiki, No. 2, 1960)

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Problems of Economics

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PROBLEMS OF ECONOMICS

Selected Articles from Soviet Economics

Journals in English Translation

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  JOURNAL OF LENINGRAD UNIVERSITY, ECONOMIC SERIES
VESTNIK MOSKOVSKOGO UNIVERSITETA, SERIIA EKONOMIKI –
  JOURNAL OF MOSCOW UNIVERSITY, ECONOMIC SERIES
VESTNIK STATISTIKI – JOURNAL OF STATISTICS
VNESHNIAIA TORGOVLIA – FOREIGN TRADE
VOPROSY EKONOMIKI – PROBLEMS OF ECONOMICS
MIROVAIA EKONOMIKA I MEZHDUNARODNYE OTNOSHENIIA –
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Vestnik Statistiki, No. 1, 1960

Eidel’man:

e Structure of an Inter-Branch Balance of Production
l Distribution in the Soviet National Economy

General Questions of Compiling an Inter-Industry Balance

omprehensive study of the interrelationships and rtions in social production and an improvement in elevant research methods are of great significance analysis of social production and for a more per- rganization of national economic planning in condi- of the socialist economic system.

of the most important means of revealing and ana- the proportions and relationships in the national my is the balance method, which is widely applied in ing practice and statistics. It serves as a major in- ent in establishing correct economic proportions, in ating separate parts and elements of the national mic plan into a single whole. Statistical balance s make it possible to study the proportions and rela- ips prevailing in the national economy and to obtain crete picture of expanded socialist reproduction as a and of individual industries.

main proportions in the national economy are those between production and consumption, consumption and accumulation, between production of means of production and consumer goods, between individual branches of material production. The national economic balance sheet, which is compiled annually in our country, plays a principal role in analyzing and studying these proportions. The balance sheet of the national economy presents a concrete quantitative picture of expanded socialist reproduction, of the basic relationships and proportions in the national economy. It reflects all the chief aspects and indices of expanded socialist reproduction in their mutual interdependence: indices of production, distribution and redistribution of the social product and the national income, indices pertaining to the use of the labor force, to the reproduction of fixed assets, etc. The national economic balance sheet, notably one of its principal tables pertaining to the balance of production, consumption and accumulation of the social product, also analyzes the interrelations among the main branches of material production. These interrelations may be observed in the indices shown in Table 1 below.

Table I

Extract from Draft Balance of Production, Consumption and Accumulation of the Social Product

	Productive Consumption									Non-productive consumption	Accumulation	Exports	Total
	Industry	Agriculture	Construction	Forestry	Freight transport	Communication services in production	Material-technical supply	Procurements	Trade and public catering				
Total for national economy													
including:													
Industry													
Agriculture													
Forestry													
Construction													
Public catering													
Communication services in production													
Of this total:													
I. Means of production													
(including same branches without public catering)													
II. Articles of consumption													
(including same branches without communication services)													

*The “Non-productive consumption” and “Accumulation” items are presented without a detailed breakdown.

In the stub of Table 1 only those industries which directly produce material values are distinguished. The output of transport, material-technical supply, procurements and trade, i.e., the output of those branches which represent a continuation of the production process in the sphere of circulation, is distributed among the above-mentioned basic branches of material production in the resource part of the balance table, which is not presented here. Thus, the balance of production, consumption and accumulation of the social product reveals the interrelations and proportions among the principal branches of material production as a whole as well as for the main subdivisions of social production.

However, the national economic balance sheet reflects only the basic and more general proportions of social production. Inter-branch relationships are shown in it only with regard to interrelations among the major branches of material production. Yet it is essential for the planned guidance of the national economy that inter-branch relationships embracing a wider range of branches be presented and studied. In the process of drafting national economic plans it is not enough merely to establish the relationships among the basic and major branches, such as industry, agriculture and construction; it is also necessary to show the inter-connections between production and consumption relating to a larger number of branches and embracing a wider range of products.

The process of revealing and studying these relationships is now carried out chiefly by elaborating a system of material balance sheets. Embracing a wide range of products, the material balance sheets show the relationships existing between the output and consumption of individual products, between available resources and their distribution in the national economy. At the same time it should be noted that the system of material balance sheets which is being drawn up at the present time does not give the exhaustive picture of inter-branch relationships which is needed to meet the requirements of national-economic planning at the present stage of our economic development.

This is explained, in the first place, by the fact that the material balance sheets as well as the distribution plans and delivery reports do not contain data on the distribution of output by branches: the distribution of output is indicated only for the Union Republics and All-Union Ministries. Second, the material balance sheets characterize only the direct relationships between the output and consumption of distinct products, without indicating the material inputs which are indirectly connected with the output of a given product. Third, the material balance sheets do not characterize all material relationships, since they embrace only major products. Moreover, the products included in the material balance sheets are expressed in kind, while a balance sheet expressed in money terms would require the evaluation of every product; this is a big job involving very complex calculations.

Side by side with the national economic and material balances, an inter-branch balance of production and distribution of the social product, embracing a large number of branches, can be of great significance for a more profound study of inter-branch relationships. Such a balance will permit an all-round study of the interrelations existing among diverse branches of the national economy and make it possible to determine and analyze social costs of production in every branch and to calculate the total inputs required for the output of individual products. The process of studying inter-branch relationships by means
of an inter-branch balance is connected with the use c
new methods of studying the structure of social produ
tion and measuring technical-economic links between
dividual branches of material production.

It would be wrong to think that an inter-branch bala
can substitute for the methods of studying interconnec
tions and proportions which are applied in Soviet stat
tics and planning. Both theoretically and practically,
basic proportions and interrelations established in th
process of drawing up the national economic balance
serve as a starting point for compiling an inter-branc
balance. The inter-branch balance of production and
tribution of the social product represents, in essence
further development of the table of inter-branch relat
ships which is part of the national economic balance.
can be easily proved by comparing the inter-branch b
ance model given below and the balance of production
consumption and accumulation of the social product.

The first quadrant of the inter-branch balance, whi
characterizes the production links among different
branches, may be found also in the balance of the soc
product, although in this case it covers only the princ
branches of material production. The second quadra
illustrating non-productive consumption and accumul
is likewise given in the social product balance, where
embraces the principal branches. As for the third an
fourth quadrants, which cover the elements of distrib
tion and redistribution of the national income, these h
their counterparts in the financial balance table.

The idea of analyzing inter-branch links with the h
of balance tables was already expressed in the first b
ance of the Soviet national economy for 1923-1924 an
was subsequently used by the American economist W
sily Leontief in his balance models under the name o
Input-Output Analysis.

However, the 1923-1924 balance of the national eco
my represented only the first attempt in this directio
In the years since then, work in this field has made g
forward strides in the USSR. It has been accompanie
constant improvement in the methods of compiling na
al economic balances with a view to revealing more
and correctly the principal economic processes of ex
panded socialist reproduction and making a deeper st
of the interconnections and proportions in the nationa
economy. At present the national economic balance
resents a system of interconnected tables and indice
which make it possible to obtain a comprehensive pi
of expanded socialist reproduction. Its basic feature
were examined and widely discussed at the All-Unio
Statistical Conference held in June 1957. Based on t
Marxist-Leninist theory of reproduction, this model
makes it possible to obtain a picture of the expanded
production of the socialist national economy as an in
gral whole; at the same time it provides a clear insi
into the structure of the national economy and revea
interrelations existing among its major branches an
divisions. Herein lies the fundamental distinction b
tween the national economic balance drawn up in the
and the partial balance structures elaborated by bou
geois economists and statisticians.

Bourgeois economists and statisticians base their
ance structures on the principles of vulgar bourgeoi
political economy, endeavoring to replace a social-e
nomic analysis of capitalist society by a technical-
economic one. W. Leontief and his followers believ
an analysis of inter-branch relationships with the h
the input-output method ensures the rational organi

planning of the capitalist economy and makes it pos- e to forecast capitalist economic development. It is e obvious that such assertions have nothing in com- with real science, for the whole course of capitalist elopment at every step testifies to the ideological ruptcy of bourgeois political economy.

the same time it has to be pointed out that certain rete methods of gauging production relationships em- ed by W. Leontief in his balances deserve attention. refers primarily to the use of linear algebra as a ns of gauging inter-branch links in the national econ- .

a socialist society, where economic development is d on a single plan, the application of mathematical ıods as a means of measuring inter-branch relation- s can play an important progressive role. Soviet ıematicians and economists are conducting extensive arch in this direction. Great prospects for utilizing nter-branch balance have been opened up by the in- uction of electronic computing machines.

tensive application of mathematical methods in the y of interrelations between the various branches, es- ally of linear algebra and the matrix theory, is based ıe fact that the quantitative expression of inter-branch omic links can be expressed by a system of linear tions.

we calculate the matrix of input coefficients with the of a system of equations, it will reflect the economic relations between the various branches of the nation- onomy.

ıe inputs of one industry's products in the output pro- d by another industry represent direct inputs and de- on the character of production in the given industry, echnical level, etc. Direct inputs indicate the quan- of one or another product directly expended on the ıt of another product (the amount of coal directly used he output of electric power, the amount of metal di- y expended on the manufacture of machine tools, . But along with direct inputs, in studying inter- ch relationships it is of great importance to calculate otal input of the given product connected both direct- the shape of direct inputs, and indirectly, through products — with the manufacture of another product. , in calculating the total input of fuel in the produc- of electric power we must take into account not only mount of fuel that goes directly into the output of r, but also the quantity of fuel used to transport coal ther materials to the power plant, the amount of fuel red for the production of these materials, etc.

oceeding from the data on direct inputs, we can com- table of total inputs with the help of mathematical formations.

Principles of Compiling an Inter-Branch Balance n the USSR: Program and Organization of Work

ısidering the great practical significance of inter- h relationships for the improvement of the socialist ng system, the Central Statistical Board of the has now launched a program for drawing up an inter- h balance of production and distribution of output in tional economy.

s inter-branch balance will be based on the statisti- ta for 1959, both in terms of money and in kind. It nned to base the balance on the following two mod-

an inter-branch balance of production and distribution of goods in the economy in money terms, and

2. an inter-branch balance of major products in kind.

These models differ essentially both in their aim and structure.

The inter-branch balance in money terms will show the circulation of the total social product among the individual branches of the national economy and industry. It will help to disclose and analyze the interrelations and proportions among all branches of the national economy by embracing a relatively wide range of industries. This balance will cover 74 branches of material production, among them 65 branches of industry, 2 branches of agriculture, construction, transport, communications, material-technical supply, procurements, trade and other branches of material production. A model of the inter-branch balance of production and distribution in money terms is shown in Table 2 on the following page.

This model consists of four parts or quadrants, each of which characterizes certain aspects and processes of social reproduction.

The first quadrant characterizes production relationships between individual branches of material production according to objects of labor (raw and other materials, fuel, electric power). This quadrant is arranged in the form of a chess-board table and has an identical number of lines and columns embracing different branches of material production. This structure of the table makes it possible, on the one hand, to obtain a detailed picture of the material inputs required for the production of each branch (when reading the table vertically, column by column), and on the other, to establish in which branches and for which types of products the output of each branch is expended (when reading the table horizontally, line by line). Thus, this quadrant graphically reveals the inter-branch relationships and the structure of productive consumption in the sphere of material production.

The second quadrant shows the utilization of the national income for accumulation (capital investment and increase in working capital) and non-productive consumption. Unlike the first quadrant which characterizes the simple reproduction of objects of labor (reimbursement of production inputs), the second quadrant shows the process of expanded reproduction and the final consumption of material values in each branch of material production.

The third quadrant characterizes the composition of the national income as a newly created value (V + M) and shows the basic elements of the net product (wages, profit, turnover tax, etc.) in every branch of material production. Thus, as distinct from the second quadrant which reflects the material composition of the national income, the third quadrant shows the structure of the national income in value terms.

The fourth quadrant contains certain elements of the redistribution of the national income. It includes individual items illustrating non-productive consumption and characterizing the exchange between the productive and non-productive spheres.

The four quadrants in this balance are closely interconnected and give a comprehensive picture both of expanded socialist reproduction as a whole and of its individual branches. If we examine the balance horizontally, each line of the first and second quadrants is essentially a summarized material balance of each branch, while if examined vertically, each column indicates the value of output manufactured by each branch (C + V + M), i.e., material production inputs (C), wages and other forms of remuneration of labor (V) and the elements of the surplus

Table 2

Model of Inter-Branch Balance of Production and Distribution of Output in the National Economy for 1959 (in money terms)
(Thousand rubles)

Branches of material production (as specified in attached list of branches)	Production inputs						Accumulation of assets				Non-productive consumption								Export-import balance	Total
							Basic					Public								
	Ferrous-metal ores	Ferrous metals	Metalware	Coke chemistry	Others	Total	Fixed production assets	Fixed non-production assets	Increase in working capital and reserves	Total	Personal consumption	Municipal services	Public health	Education	Science	Others	Total			
Ferrous-metal ores																				
Ferrous metals																				
Metalware																				
Coke chemistry																				
Others																				
All material inputs (without depreciation)																				
Depreciation																				
Total material inputs (including depreciation)																				
Wages and other forms of labor remuneration																				
Profit																				
Turnover tax																				
Net income of collective farmers and cooperatives																				
Other elements of net income																				
Sum total																				

product (M) — profit, turnover tax, etc. The cost of production in each industry is equivalent to C + V.

An inter-branch balance constructed in this way makes it possible not only to disclose production links among the various branches of material production (which is one of its chief purposes) but also to calculate the coefficients characterizing the dependence of some branches on others, to establish the interrelations among non-productive consumption, accumulation (capital investments and increase in stocks) and productive consumption in the individual branches of material production. The data on the structure of the social product by individual branches or products (in a column-by-column examination of the table) are of great interest for an analysis of the social costs of production and profitability, as well as for the study of price-fixing factors.

One of the basic conditions for compiling a correct inter-branch balance is a scientifically worked out classification of the diverse branches of the economy, with the singling out of material production branches and the non-productive sphere. The theory and practice of Soviet statistics and planning strictly distinguish between the sphere of material production which creates the social product and national income, and the non-productive branches in which the social product and national income are not created but only consumed.

The draft model of the inter-branch balance for 1959 is based on the classification of branches and industry adopted by the Central Statistical Board of the USSR.

One of the most important distinctive features of this classification is that the term "branch" is understood here not as an aggregate of enterprises, but as a combination of homogeneous products corresponding to the specialization of the given branch. As a rule, in the classification of economic branches, and notably industry, the
enterprise serves as the basic unit, i.e., homogeneou
enterprises are attached to definite branches. If an e
prise manufactures several products relating to diffe
branches, the chief criterion in referring it to one or
other branch is the principal or predominant item pr
duced by the given enterprise. In compiling an inter-branch balance this principle of classification may le
to a distortion of inter-branch relationships and is th
fore unacceptable. Indeed, the branches listed in the
of the inter-branch balance can figure only as an agg
gate of homogeneous products, since these branches
resent a grouping of data indicating the expenditures
concrete types of raw and other materials, fuel and c
objects of labor. Accordingly, the branches listed in
table columns should be understood in the same sen
those in the stub.

Take the automobile industry as an example. Apa
from automobiles its enterprises manufacture a num
of other items, such as refrigerators, machine tools
It is quite obvious that the data on the expenditure of
rous metals, for instance, by the automobile industr
in this case characterize the expenditure of metal no
only in the manufacture of automobiles, but also of o
items produced by the automobile plants. In this con
tion there arises the complex problem of singling ou
"pure" branches, i.e., branches as aggregates of ho
geneous products, excluding any products relating to
er branches.

Practical solution of the problem can be achieved
the following methods: (a) collecting data on the in
materials in individual products grouped according
ferent branches; (b) amalgamation of a number of
branches, under which heterogeneous products are a
tributed to one consolidated branch; (c) if the amoun
material required for the manufacture of auxiliary

:ts is insignificant, the total input of materials by terprise can be attributed to the branch which em- s the principal product. In collecting and process- data on the input of materials in the manufacture ducts by various enterprises, as well as in de- ng branches of material production, it may prove ent to employ all these methods. It should be noted e more branches are included in the inter-branch e, the more complicated is the job of obtaining data uts in the manufacture of homogeneous products, nversely, the more consolidated are the branches sier it is to collect such data, since many hetero- is products will fall into one branch. With the de- nent of industrial specialization and cooperation the r of enterprises manufacturing definite types of :ts will increase and this will considerably facilitate sk of deriving branches comprising homogeneous :ts.

Parallel with the inter-branch balance expressed in money terms and embracing the total social product, there will be an inter-branch balance of production and distribution of principal products expressed in kind. This balance will embrace 170-180 products distinguished by their major national economic importance, mass production and universal consumption. The nomenclature is based on the lists of industrial products used in the national economic plans and state reports. The list of items for the inter-branch balance also includes products which, although not distinguished by universal consumption, serve as major raw materials in the manufacture of the products listed in the balance (ferrous and non-ferrous metal ores, basic raw materials for the chemical industry, etc.). A model of the inter-branch balance of principal products expressed in kind is shown in Table 3.

***

Table 3

Model of Interbranch Balance of Production and Distribution of Principal Products in 1959 (in kind)

Products (as specified in accompanying nomenclature)	Unit of measurement	Production	Imports	Other sources of supply	Drawn from stocks	Total resources	Inputs in the manufacture of products						For replenishment of fixed and working capital (increase in stocks)	Consumption (non-productive)		Exports	Total amount distributed
							Iron and manganese ores	Cast iron	Steel	Ferrous rolled metals	Others	Input in other types of products		Total	Including personal consumption		
Iron and manganese ores	Tons																
Cast iron	"																
Steel	"																
Ferrous rolled metals	"																
Others	"																

:h line in the above model represents a comprehen- alance of each individual product expressed in kind. icome part of this balance shows the resources ac- ig to the nature of their origin (production, imports her sources); the expenditure part of the balance rates the actual utilization of the product (input in anufacture of each individual product, increase in s and reserves, non-productive consumption, ex- , etc.). Thus, the inter-branch balance of produc- nd distribution of principal products expressed in epresents essentially a system of interconnected ial balances depicting the interrelations and pro- ns among principal products on a national scale. most important part of the inter-branch balance ssed in kind is the section showing the inputs in the acture of products. This section shows the amount of each individual product that goes into the manufacture of other specified goods. The products listed in the stub of the table serve as elements of material inputs (raw and other materials, fuel, power) in relation to the same products listed in the columns and appearing as finished goods. The data provided by this table serve as a basis for calculating the average input of each type of raw and other materials, fuel and power in the manufacture of a unit of individual products. The average inputs computed in this way characterize direct inputs of certain types of raw and other materials, fuel or power in manufacturing units of concrete products. Systematically arranged and summarized, these data in themselves are of great value in national economic planning. However, this is only one important aspect of the table; its over-all significance is far greater. Processing the data on direct inputs with the help of electronic computers, we can compute the coefficients of total inputs embracing inputs of each type of raw and other materials, fuel or power which are connected, both directly and indirectly — through other products participating in its manufacture — with the output of a given product. However, this gives rise to one of the most complex practical problems of computing the inter-branch balance expressed in kind.

The total inputs involved in the manufacture of individual products could be computed by compiling an inter-branch balance of production and distribution expressed in kind, embracing not only major types of products, but all the products produced and consumed in the national economy. Without this, it is impossible to take full account of the total inputs which both directly and indirectly participate in the manufacture of individual products. It stands to reason that the job of compiling a balance expressed in kind embracing all products involves immense practical difficulties. Yet such a balance, even if it embraces only major products, can play an important part in improving the methods of national economic planning, particularly in perfecting the organization and planning of material-technical supply. With this aim in view it was decided to compile an inter-branch balance of production and distribution expressed in kind for 1959, embracing the most important products which play a decisive role in the country's economic development. Such a balance will make it possible to reveal and study the concrete material interrelations and proportions in the key, decisive branches of social production and to compute direct and total inputs in the manufacture of individual products. It should be borne in mind, of course, that the total inputs here will embrace only the direct and indirect inputs which may be computed within the limits of the product nomenclature listed in the balance.

The value and practical significance of the inter-branch balance will depend largely on the authenticity and precision of the initial data. All sorts of approximate and insufficiently substantiated calculations tend to reduce the accuracy of the data on inter-branch relationships and, consequently, considerably decrease the practical possibilities and effectiveness of the inter-branch balance. That is why the collection and processing of statistical data required for the inter-branch balance constitutes an extremely complicated and responsible operation which in many respects determines the success of the whole work. In the process of collecting and arranging statistical data for the inter-branch balance many organizational and methodological problems arise without whose solution it is impossible to obtain the necessary information. As a matter of fact, the existing system of statistical reports does not permit us to obtain all the data necessary for computing interrelations among the various branches.

The present system of statistical reports on inventory stocks, supply and expenditure of raw and other materials and fuel, fulfillment of the norms of expenditure, delivery of products to consumers, etc., is chiefly aimed at supervising the fulfillment of supply plans and providing the planning and supply agencies with the data necessary for effective regulation and distribution of material-technical supply. These reports do not provide detailed data on the input of specific types of raw and other materials and fuel in the manufacture of individual goods. Thus, the existing system of statistical reports on fulfillment of the raw material input norms cannot serve as a basis for calculations because it covers a relatively narrow range of products and, above all, most of the norms are strictly individual in character, i.e., the input of terials is fixed for certain types of products manufac by individual enterprises. The statistical reports on ventory stocks, incoming shipments and expenditures raw and other materials and fuel show the input of sp ic materials expressed in kind for the enterprise as whole, without indicating the type of products on whic these materials have been expended; moreover, the d contained in these reports are arranged not accordin specific branches but according to the economic coun Union Republics, etc. It should be perfectly clear tha such data cannot serve as a basis for computing inte branch relationships, but can only be used for variou additional calculations.

It would hardly be expedient now to introduce a new system of statistical reports providing exhaustive dat for the inter-branch balance since it would involve a siderable extension of statistical reporting and reorg zation of the entire system of statistical calculations in effect at enterprises.

To obtain the necessary data for the 1959 inter-bra balance, it is planned to carry out a sample survey o dustrial enterprises and construction projects in Feb ary and March 1960. The purpose of this survey is t collect detailed information on the inputs (both in ter of money and in kind) of various types of raw and oth materials, fuel and electric power in the manufacture individual products in 1959. Computed on the basis o these data, the input norms (in terms of money and in kind) will be applied to the aggregate volume of outpu produced by each individual branch of industry and co struction. The sample survey will embrace not less 20% of all industrial enterprises and construction sit Such a high percentage is explained by the necessity obtaining reliable data on production inputs in extrem complex and multiform conditions.

The sampling is based on the standard proportiona lection of enterprises with mechanical sampling with the various groups. Standard groups are formed acc ing to definite products (ferrous metals, nonferrous als, automobiles, machine tools, etc.). In the proces selecting industrial enterprises the latter are regist in descending order commensurate with their volume output and, as a rule, are further classified accordin the size of the enterprise (large, medium or small).

The sample survey is carried out with the use of t blanks. The first blank must provide data required t compiling the inter-branch balance in money terms, the second for the inter-branch balance expressed in It should be emphasized that the job of preparing the blanks at enterprises is by no means as simple a ca lating operation, as it seems at first glance. The pr system of collecting and processing primary data at enterprises does not provide ready-made data requi by the blanks. A certain amount of additional work w have to be done at the enterprises before the blanks be prepared.

Reproduced on the following page is a draft of the blank of the sample survey.

The blank ends with information on gross and man ble output as well as on production costs, including t volume of output and production cost corresponding the line of specialization of the enterprise.

This structure of the blank must be attributed to t need for obtaining the following information on the b of the sample survey: (1) data on the inputs in the facture of individual products for delineating "pure"

Form No. 1 (draft)

BLANK
for current calculation of production inputs in 1959 (in money terms)

Enterprise ____________

Trust, combine, administration, economic council, ____________

department ____________

Address ____________

Codes		
Branch	Jurisdiction	Region

Thous. rubles

Input elements	Code	Total	Including inputs in manufacture of specialized goods
I. Production inputs . . .			
1. Raw and other materials, fuel, thermal and electric power, semi-finished goods and units made elsewhere			
Ferrous metal ores			
Ferrous metals			
Metalware			
Others			
Total			
2. Depreciation			
3. Wages			
4. Other expenses			
Total production expenditures			
II. Profit			
III. Turnover tax			

hes, and (2) material inputs grouped according to
ranches listed in the inter-branch balance. The data
aterial inputs in the manufacture of specialized
, i.e., products determining the branch to which the
prise belongs, occupy the chief place in the blank.
e data will be used for computing material inputs in
arious branches and obtaining data required for the
of inter-branch relationships. Detailed information
al inputs is required primarily for verifying the
ctness of the calculation of inputs in a given enter-
, as well as for supervising the sampling results
ther computations.

e survey blanks prepared at the enterprises must be
ully checked. First of all, it is important to verify
er the data on material and other production inputs
spond to the annual report data on production costs.
also very important to compare the data on the in-
of individual types of materials with existing norms.
apply the sample survey data to the whole complex
be necessary to calculate average norms or coef-
ts for individual groups of inputs in the manufac-
of each product. This purpose will be served by the
data on the volume of gross and marketable output
sponding to the line of specialization of the enter-
.

e second sample survey blank is shown on the follow-
ge.

e basic preparations for carrying out the sample sur-
ave already been completed. A detailed list of branches as well as of the products included therein has been drawn up. The selection of the enterprises subject to survey has likewise been completed. The survey blanks, detailed instructions and other materials have been prepared.

In organizing the sample survey and calculating inputs in the manufacture of individual products there arises the problem of computing the expenditures on finished and semi-finished goods received by the enterprises from outside, through industrial cooperative deliveries. With the development of industrial specialization and cooperation, an ever-increasing part of manufactured goods is produced jointly by many enterprises closely interrelated through ties of industrial cooperation. This situation gives rise to the problem of computing the total inputs of metal and other materials in the manufacture of particular types of machines and other products. It is quite possible that the enterprises filling in the blanks will not be able to furnish the appropriate data. In practical terms this problem can be solved by requesting the factories cooperatively engaged in manufacturing certain types of goods and semi-finished products to submit the necessary data on the input of metals and other materials in their production, and the mills manufacturing machines and other goods should provide data on the amount of semi-finished goods, parts and units expended in the manufacture of these products. With a view to obtaining such data the reverse side of the blank (Form No. 2) requests information on the inputs in the manufacture of the basic

Form No. 2 (draft)

Enterprise
Trust, combine, administration
economic council, ministry,
department
Address

BLANK

for current calculation of production
inputs in principal products in 1959
(in kind)

Codes		
Branch	Jurisdiction	Region

Material inputs	Code	Unit of measurement	Output of specialized goods				
			Type of goods				
			Quantity				
			Total material inputs	Including inputs in manufacture of specialized goods			
				Total	Including direct inputs	Total	Including direct inputs
Iron and manganese ores Pig iron Others							

products, semi-finished and finished goods received by way of cooperation.

The sample survey will furnish the necessary data for a detailed characterization of inter-branch relationships only in the sphere of industry and construction. However, the compilation of the inter-branch balance will require statistical data illustrating the interrelations among all branches of the national economy. These data will be computed with the help of available statistical materials. This will involve a series of major economic calculations. Thus, the data on interrelations in agriculture will be obtained by drawing on the material balances of agricultural products, calculations in the field of transport will be based on transport statistics, etc. Valuable assistance in compiling the inter-branch balance will be rendere by calculations made for the national economic balanc

The work of compiling the inter-branch balance of duction and distribution represents a complex statisti operation involving a series of extensive statistical s veys and economic calculations. A large body of scie tists and practical workers are taking an active part working out the balance. To compile the inter-branc balance of production and distribution of goods in the viet national economy is an extremely important and responsible task and every operation involved in this must be performed very carefully and thoroughly. Its sults will be used for a deeper study of socialist prod tion and the improvement of national economic planni

Voprosy Ekonomiki, No. 2, 1960

Smekhov:

pital Investments and Rates of Expanded Production

e Soviet Union's entry into the period of comprehen- construction of a communist society represents a phase in the economic competition between socialism apitalism. The decisive factor in this competition e the high rates of growth of production in our coun- All the major targets of the Seven-Year Plan are ted to the maximum acceleration of economic develop- , especially of the decisive branches of industry. fundamental problem in the coming seven-year pe- " according to the Resolutions of the 21st Party Con- , "is the problem of winning maximum time in the eful economic competition between socialist and capi- n."

he nationwide struggle for the maximum accelera- f communist construction, much depends on the er improvement of planning. The more successfully roblem of rates of growth is tackled in the plan, the successfully it is solved in practice, for the plan ts the economic life of socialist society. The stand- or the successful accomplishment of planned assign- s is the successful work of every enterprise, every ict. "Every plan," wrote V. I. Lenin, "is a yardstick, erion, beacon, landmark, etc."(1)

he practice of socialist construction there are prob- which are solved only during the drafting and ap- l of the plan and upon which largely depends the ity of economic development. These include such ions as establishing the basic proportions in econom- velopment, distribution of social funds in the national my, and particularly the distribution of capital in- nents among the various branches, as well as g the union republics, economic administrative areas ndividual economic organizations. Thus, a basic re- ization of the fuel balance makes it possible, already s seven-year period, to save more than 125 billion s, which largely ensures a high rate of socialist re- ction. The decisive factory in this reorganization is arked redistribution, envisaged in the plan, of capi- vestments among the fuel branches in favor of an ac- ated development of the oil and gas industries.

e problem of winning maximum time in the peaceful mic competition between socialism and capitalism makes great demands on planning methods. We have to work out the kind of planning methods which would make it possible to accurately determine which version of the plan will permit a target to be achieved in the shortest possible time. And this presupposes, above all, the study of the quantitative interrelationship of various aspects of socialist reproduction.

A serious practical role may be played by a study of the quantitative interrelationship between changes in capital investments and their efficacy on the one hand, and changes in the national income and its structure on the other. The principal conclusions arising out of such a study are of practical value for planning the economy on both a national scale and on the scale of a union republic and economic administrative area.

Interrelationship Between National Income and Capital Investments in the Soviet Economy

The capital construction plan organically includes both the plan for increasing the mass of fixed assets and the plan for their technical improvement on the basis of the further development of heavy industry and an improvement in the quality of its output, which determines the material structure of fixed assets. In turn, an increase in the mass and an improvement in the composition of fixed assets decisively influence the rates of development of the whole of the national economy.

"Capital investments in new construction and the reconstruction of enterprises," said Comrade N. S. Khrushchev at the 21st CPSU Congress, "are the basis for the high rates of expanded socialist reproduction."

The scale of capital construction which can ensure a solution of important economic and political tasks depends on the total volume of capital investments in the national economy; the latter is primarily determined by the magnitude and structure of the national income. The relationship between the growth of the national income as a source of capital investments in the national economy and the growth of capital investments is evident from the following data:

***

	1932 in % of 1928	1940 in % of 1932	1950 in % of 1940	1958 in % of		
				1950	1940	1932
National income	182	282	164	226	371	1,045
Capital investments of state and cooperative organizations	426	200	208	254	529	1,055

e periodic differences in the relationship between the of growth of the national income and capital invest- s are due chiefly to changes in the structure of the national income. During the first Five-Year Plan capital investments grew much more rapidly than the national income because of the considerable increase in the share of accumulation in the national income and also in connection with the process of socialization of production. This fully corresponded to the task of building up the foundation of a socialist economy in the shortest possible time in conditions of capitalist encirclement. In the subsequent prewar years the successes achieved in industrialization made it possible to increase the rate of growth of consumption, and the share of accumulation (excluding reserves) declined. Therefore, the growth of the national income exceeded that of capital investments. In the postwar period the share of accumulation in the national income again increased. Taken as a whole, capital investments between 1932 and 1958 increased at the same rate as the national income — more than 10 times.

State capital investments during the period 1959-1965 will amount to about two trillion rubles. But the growth of the national income and the change in its structure have been planned in such a way as to ensure this gigantic scale of capital construction. By 1965 the national income will rise by 62-65% as compared to 1958, and the accumulation fund by roughly 70%. Capital investments in the seven-year period will increase by approximately 80% as compared with the preceding seven years. But for comparison with the dynamics of accumulation, the increase in capital investments should be determined not as an aggregate sum for a period of seven to eight years, but as it will be at the end of the Seven-Year Plan, in 1965, as compared with 1958. This increase will also amount to about 70%. Hence, the general tendency is for capital investments to grow at the same rate as the accumulation fund.

The reverse dependence — the dependence of the growth of the national income on the dynamics of capital investments — is, in fact, a problem of the effectiveness of capital investments. Being the main source of capital investments, the national income, in turn, is directly dependent on changes in the volume and composition of fixed assets. The chief factor in the growth of the national income is, as we know, higher productivity of social labor, which is effected primarily by technical improvements in production. However, here there is not the direct relation that exists between the dynamics of the accumulation fund and of capital investments.

First, the effect of capital construction on the size of the national income is connected not only with the volume of capital investments, with the scope of capital construction, but also with its material and technical content, with improvements in the production, composition and quality of the instruments of labor, and also with their better utilization. In the final analysis the criterion for raising the quality of fixed assets and improving their utilization is an increase in the national income per worker in production, that is, an increase in the productivity of social labor.

Second, inasmuch as the national income is created through the interaction of all the instruments of labor operating in the course of the given year, capital construction affects the national income not directly, but through the dynamics of the volume and changes in the yield of all the average annual fixed assets.

Third, capital construction in the given period has for its main source the national income of the same period, but it influences the national income not only of the given, but also of the future period: a substantial part of the capital investments of some given period is used to create the essential source of capital construction.

From these specific features of capital construction as a factor in the growth of national income there fo an important methodological conclusion: to analyze influence of capital investments on the size of the na al income it is necessary to compare the change in t tional income not with the dynamics of capital invest ments, but with the dynamics of the volume of fixed sets stemming from the given capital investments. thermore, in analyzing this influence it is essential t vey a sufficiently long period (five or more years) d which the bulk of capital construction begins to influ the dynamics of the national income.

The problem of winning maximum time in the peac economic competition between socialism and capitali calls for the greatest possible increase in the effecti ness of capital investments. In its turn, the effective of capital investments in given branches or economi projects depends upon the changes which take place effectiveness of all fixed assets as a result of the gi capital investments.

Greater effectiveness of fixed assets is expressed the final analysis, in the rate of growth of the produc of social labor. This growth is closely linked with th creased yield of the fixed assets. Therefore, the eff tiveness of the implements of labor, although not equ lent to their yield, is directly dependent upon it.

In most branches of Soviet industry the yield of fi assets is steadily rising. Thus, according to a roug mate, the ratio of output to fixed assets has changed some branches as follows:

	1940 in % of 1932	1955 in of 1940
Electric power stations	117	108
Engineering and metal-working industries	132	207
Chemical industry	176	222
Light industry	106	123

In other branches — ferrous and non-ferrous met lurgy, the building materials industry — the yield de clined between 1932 and 1940 (while labor productiv greatly increased), while in 1955 it exceeded the 194 level. In the fuel, woodworking and food industries put is still growing slower than fixed assets.

For the national economy as a whole the relations between changes in the productivity of social labor a changes in the yield of fixed assets is characterized the following data (shown in the table on the top of th following page).

The following table shows that in certain periods yield of fixed assets grew rapidly whereas in others hardly increased at all or even declined. But labor ductivity grew steadily at a rapid rate. Consequentl certain periods an appreciable rise in the productiv social labor is achieved by an even more rapid grow fixed assets. An estimate of the effectiveness of ca investments is closely tied up with an analysis of th tial level of national economic development, since t original conditions prevailing in different periods a the same. An increase in the productivity of social can be attained not only by increasing the yield of fi assets but also by raising the equipment fund of lab which in given periods may cause some decline in t

	1928 in % of 1913	1940 in % of 1928	1950 in % of 1940	1958 in % of 1950	1958 in % of 1940	1958 in % of 1928
1. National income	119	513	164	226	371	1,905
2. Fixed assets	136	443	134	226	302	1,338
3. Personnel in production (approximately)	106	120	98	107	105	126
4. Productivity of social labor (1:3)	112	428	168	211	354	1,510
5. Yield (1:2)	88	116	122	100	123	142

f growth of the yield. The ratio of national income ed assets is influenced by changes in the branch ure of fixed assets, changes in their technical com- on, in the location of productive forces, extent of edge on the available deposits of useful minerals, ngth of service of the fixed assets, etc. It is per- clear that in different periods of economic develop- all these factors have differing effects on the de- economic index — productivity of social labor on e hand, and on the other — on the index of the yield ed assets.

s a matter of some importance for the national econ- o determine what mass of fixed assets produces the st level of productivity of social labor. The higher eld of the instruments of labor, the sooner is this achieved.

er present conditions an increase in yield is of importance. The Communist Party attaches singu- portance to the most effective distribution of capi- estments and especially to the best possible use of tunities for reconstruction of existing enterprises would enhance the yield of the instruments of labor. une (1959) Plenum of the Central Committee of the approved the initiative displayed by the working peo- e Party and economic organizations of the Vladimir erdlovsk regions, the city of Moscow, the Moscow, grad, Gorky, Zaporozhe, Dniepropetrovsk and other s, as well as of the Belorussian Republic, which found ways of increasing the yield of fixed assets over and above the plan and thereby accelerated the growth of production with the same capital investments. To increase the yield of the instruments of labor it is also very important to reduce the weight of the buildings and structures under construction, to lower the planned cost of the fixed assets while maintaining the same capacities of the enterprises. The existing possibilities for increasing the yield of fixed assets is evident from the fact that in industrial construction the share of equipment in the cost of the enterprises is still 50% below that prevailing in the USA.

While analyzing the general yield, that is, the ratio of the national income to the average annual fixed assets, we have to particularly distinguish the influence of structural changes. The latter are connected with improvements in production, but do not directly reflect these. To reveal the change in the yield of the instruments of labor independently of structural changes, it is necessary to calculate a weighted average index of yield. This will be an average branch index of yield as distinct from the general index, and the weights will be the shares of the various branches in the total sum of fixed assets in production in the last year of the examined period.

Calculations show that changes in the branch structure of industry reduced the index of the general yield of fixed assets in industry as compared with the average branch index:

	1940 in % of 1932	1955 in % of 1940	1955 in % of 1932
General index	99.6	121	121
Average branch index	105	126	148

s, because of the influence of structural changes neral yield does not accurately reflect the proc- taking place in individual branches which increase eld of the instruments of labor. Nevertheless, from int of view of the basic problem — the problem of g maximum time — the important thing is to in- e not only the average branch, but also the general

a given volume of the accumulation fund and given e branch yield, the rates of expanded reproduction gher the greater the general yield of fixed assets. fore, to analyze the quantitative interdependence of investments and the national income as a whole, e index of general yield which should be used.

Hence, the effectiveness of capital investments in the national economy for a given period is determined by the yield of the fixed assets obtained as a result of these investments, and for comparison with other periods all the specific features of these periods have to be fully taken into account, above all, from the viewpoint of the structure of the national economy.

On a national economic scale the criterion of the increased effectiveness of capital investments for a given period is the increased yield of the fixed assets obtained by means of these investments and measured by the national income per ruble of estimated value of the fixed assets. For an industrial branch (district, construction site) this criterion may also be the yield calculated in the form of net output in comparable prices, since the net output per worker reflects the effectiveness of utilization of both the living and materialized labor.

The extensively applied and recommended method of comparing various projected variants with respect to their recoupment periods is in the main acceptable, precisely because it approaches closer than other methods the method of net output. Nonetheless, the shortcoming of this method lies precisely in that it links the effectiveness of capital investments solely with accumulations, whereas in a socialist economy the decisive factor is the increase in the whole of the net product, the whole of the national income.

Hence, an analysis of the factual data for the Soviet national economy makes it possible to draw the following conclusions:

1. The dependence of capital investments on national income is expressed in the fact that the volume of capital investments, as a rule, rises to the extent that the accumulation fund grows.

2. The dependence of the national income on capital investments is expressed in the fact that the growth of the national income, and consequently the rate of expanded reproduction as a whole, rises, everything else remaining the same, to the same degree that the yield of fixed assets increases.

Furthermore, from the point of view of methodological problems of national economic planning, the two aspects of the interrelation between the national income and capital investments should be considered individually, and the extent to which they can be planned independently of the other should be ascertained.

Factors Affecting the Structure of the National Income and the Yield of Fixed Assets

The main problem of the long-term plan in its general form is as follows: on the basis of the present level of the development of social production, how can we determine the conditions under which the rates of reproduction will be at a maximum, and consequently, the national economy will be able to achieve the objectives of the long-term plan and our onward march to communism most rapidly.

To develop the best possible version of a long-term plan, it is necessary to determine first of all the opportunities available within the planned period for technical advancement and related structural changes in the national economy, and then, how best to use these opportunities.

The first requisite is really tied up with the division of the national income into consumption and accumulation funds and determining the share of the national income which could be diverted to an increase in the instruments of labor. The second requisite is connected with the problem of increasing to the utmost the effectiveness of expenditures, and in the first place, of capital investments. Let us assume that we know how and where to direct the accumulation fund to ensure the greatest possible effectiveness of expenditures. In this case the problem of rates of growth becomes that of determining the ratio between the different funds in the national income. This ratio is quite independent although, as we shall see below, it also depends on the effectiveness of capital investments. But the establishment of the proportion between consumption and accumulation predetermines the extent of the possible progressive advances in the technology of production and in the distribution o productive forces in the given planned period.

Within the long-term period covered by the plan th feasibility of effecting the planned progressive chang in the national economy actually depends on the volu of capital investments. Thus, it has been scientifica proved and confirmed by geological surveys that the balance of the country can and should be radically re shaped. In view of the above the target figures for th velopment of the national economy of the USSR for 1 1965 provide the following relationships in the growt output of coal, oil and gas:

	1958	1965 (plan)	1965 in of 1958
Coal (mill. tons)	496	600-612	121-12
Oil (mill. tons)	113	230-240	204-21
Gas (bill. c.m.)	30	150	500

The share of oil and gas in total fuel output will ri from 31% to 51% in the seven-year period. In order further improve the fuel balance in the country, oil a gas production will have to grow more rapidly than c output after the Seven-Year Plan period as well. W limits the possibility of achieving the best possible f balance during the current Seven-Year Plan? Chief the general dynamics of the volume of capital invest This is evident from the following data on capital in ments in various branches of the fuel industry and th amount according to the Seven-Year Plan (in billion rubles, in planned costs of July 1, 1955):

	1952-1958	1959-1965	1959-19 in % o 1952-19
In the oil and gas industry	72.2	170-173	235-24
In the coal industry	61.2	75-78	122-12
Total	133.4	245-251	184-1

The growth of capital investments in the basic fue branches as a whole corresponds to approximately 90% of the increase in capital investments in the nat economy in the current Seven-Year Plan period as compared to the previous seven-year period. But w the framework of this general limit the growth of ca investments in the oil and gas industries is to incre sharply.

The planned establishment of conformity between cumulations and requirements in future years is on the greatest advantages of the socialist system. Ho ever, this is one of the most complicated planning p lems.

Consumption and accumulation in socialist econo take the form of a unity of ends and means. Howeve there is a certain non-antagonistic contradiction be the consumption and accumulation funds. With a gi national income, the increase in one fund reduces t rces available for the other. The initial structure oduction largely determines the proportion between funds for each given year, since in material com- ion they are very different from one another. But within a year there are possibilities for altering the ture of the national income. And over a number of s the very structure of production can undergo sub- ial changes in accord with changes in the proportion een consumption and accumulation. A concrete solu- of the problem of the proportions between consump- nd accumulation in the national income is linked the historical conditions of development in this or period. In this sphere variation is possible, for there s no given, objectively concrete magnitude even for inite period. This should be underscored. It would mistake to believe that the objective character of omic laws requires in all cases only one uniquely ect solution of this problem for the given period. On ontrary, within the framework of the requirements e economic laws of socialism, differing quantitative ons of its solution are possible.

ng with this, the possibility of maneuvering with ect to the proportions between the consumption and mulation funds has its objective limits. These are tioned by the initial level of development, the law of riority growth of the production of the means of pro- on, and the necessity of ensuring a steady increase th the accumulation and consumption funds under lism. Since the upper limit for increasing the ac- lation and consumption funds is the growth of the e national income, the proportion between consump- nd accumulation is most closely dependent on the mics of the yield of the instruments of labor. Hence, ramework within which the structure of the national ne can be planned independently of changes in the of fixed assets is very narrow.

e coefficient of the yield of instruments of labor is enced by the following factors:

The volume, composition and quality of the output avy industry, technical progress. This directly con- s the output of the machine-building and chemical in- ies as the bases for the technical reequipment of the nal economy. But the effectiveness of capital in- ments also depends on the output of other branches of industry: metallurgy, production of timber and ral building materials, fuel and power.

Branch and territorial distribution of capital invest- s. The necessary structural changes in the national my, effected with a view to increasing the produc- of social labor, require a corresponding distribu- f capital investments among branches and areas. A example of this is evident in the proportions be- the rates of growth of capital investments in vari- ranches and areas under the Seven-Year Plan.

Construction time. By reducing construction time ccelerate the process of reproduction of fixed assets, imultaneously reproduction as a whole, which helps duce the cost of construction. Construction time is mined by numerous factors. Of great importance tting construction time is the improved planning of al investments, strict observance of schedules, mum concentration of funds on targets earmarked ommissioning, and also the selection of the most ef- e lines of capital construction, those which ensure id increase in output with the least expenditure.

, for a number of branches the Seven-Year Plan pro- mainly for the reconstruction, expansion and technical reequipment of existing plants. The June (1959) Plenum of the Central Committee of the CPSU emphasized the exceptional importance of such capital investments for the successful implementation of the Seven-Year Plan.

4. Quality of designing. The yield of fixed assets is organically tied up with the effectiveness of capital investments in every given construction project. From the viewpoint of long-term planning, improved designing for future construction is of particular importance for increasing yield.

5. Industrialization of construction and integrated mechanization of building operations. Division of labor between industry and construction has entered a decisive phase in its development. In the course of this Seven-Year Plan the building industry is to be converted into a mechanized process of assembling and erecting buildings and structures from prefabricated blocks, parts and components. This is the chief factor in increasing labor productivity in construction by 60-65% between 1959 and 1965. Industrialization of construction and integrated mechanization of building operations reduce building time and simultaneously cut construction costs. These not only reduce the actual costs, but also the comparable cost estimates, thereby raising the yield of every ruble invested in fixed assets expressed in comparable values. This is explained by the fact that industrialization of construction and integrated mechanization of building operations substantially lower the planned norms of expenditure of materials and labor time.

If the foregoing factors are to be taken into account in planning for a concrete planning period, we cannot rely solely on the initial data concerning the achieved level of economic development and scientific-technical knowledge. The impact of these factors on changes in yield in the given concrete period depends on the extent to which production increases and changes in structure. These factors are not yet known and have to be established in the plan. This was illustrated in the example of the changes in the structure of the fuel balance.

Production requirements are linked with the capital construction plan on the basis of the balance method by working out a system of balances of production capacities. These balances of production capacities form the basis for distributing the given volume of capital investments among branches, Union Republics, economic administrative areas and among individual construction projects, the basis for preparing the approved list of construction jobs. Improvements in production, including an increased yield derived from the instruments of labor, are invariably linked with structural changes in the national economy, primarily with the priority growth in the production of the means of production, and also with the differing rates of growth among the various branches within both subdivisions I and II of social production. This means that the yield of the fixed assets can be determined only on the basis of some particular proportion between consumption and accumulation in the national income.

Thus, in spite of the relative independence of the movement of the national income and its structure, on the one hand, and capital construction and its effectiveness, on the other, their interconnection is so close that it is impossible to establish any of these elements for the given planned period independently of the others.

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Quantitative Interconnections Between Changes in National Income and the Yield of Fixed Assets (2)

In the practice of national economic planning the problem of coordinating the development of the national economy as a whole with the reproduction of fixed assets is solved by gradually adjusting the magnitudes of these indexes and achieving their balanced interconnection. And the criterion for the adjustments, for the selection of the best variant, is the fullest possible solution of the economic and political tasks of the planning period on the basis of technical progress, favorable structural changes in the national economy and the utilization of internal economic reserves. This planning method has certainly fully justified itself. However, this method always leaves the following question open: Can a more effective solution of the problem of reproduction be found than the one embodied in the given draft? Is the given draft of the plan the shortest path to achieving a level of national economic development which fully corresponds to the scientific and technical knowledge which has already been accumulated? At best, these questions can be answered thus: of all the versions of the plan which arose in the course of preparing it, the given variant is the shortest way to the goal.

However, today this answer can no longer be regarded as fully acceptable. The problem of reducing to the utmost the time required to create the material and technical basis for communism and to solve the basic economic task of the Soviet Union urgently demands, and the accumulated experience of socialist planning makes possible, a higher level of planning methodology. The increased possibilities for applying mathematical methods for complex calculatior with the use of the newest computers should play a significant role in this respect.

Inasmuch as the time required for solving one or another economic and political task depends, above all, on the rates of growth of the national income, and these rates are quantitatively completely dependent on its structure and on the dynamics of the yield of the instrument of labor, it is quite possible to accurately derive the time required to achieve some given level of the productive forces with differing ratios between consumption and accumulation in the national income.

The quantitative connection of the national income not with capital investments but with the fixed assets in production can be expressed directly and in more or less simple form. But this will be quite sufficient for the subsequent determination of both the structure of the national income and the volume of capital investments, depending on the size of the necessary increase in fixed assets.

Let us analyze the interrelation of various factors affecting the rates of social reproduction and express the quantitative relationship between these factors and the rates of reproduction. Let us adopt the following symbols: index o — base year, index i — a given year of the planned period (i = 1, 2 ... n, if the plan is compiled for n years), N — national income in billion rubles in comparable prices, G — average annual fixed assets in billion rubles, using a comparable method of valuation, E — coefficient of the yield of fixed assets: $E = \frac{N}{F}$; R — average ratio for the long-term planned period of the increase in the average annual fixed assets in a given year as compared with the previous year to the national income of the preceding year:

$$F = \frac{F_i - F_{i-1}}{N_{i-1}}$$

The magnitude R is closely linked with the proporti between consumption and accumulation in the planned riod.

The increase in average annual fixed assets in a g en year compared to the previous year is equal to the tional income of the preceding year multiplied by the efficient R. Hence:

$$F_i = F_{i-1} + N_{i-1} \times R$$

Analysis shows that the index of the growth of the tional income is quantitatively completely dependent the ratio R and the coefficient E.

Indeed, the national income of any given year is eq to the average annual fixed assets of that year, multiplied by their yield: Ni = Fi x Ei. The growth of the tional income of any given year, compared with the p vious year, can be expressed by means of the followi relationship:

$$\frac{N_i}{N_{i-1}} = \frac{F_i \times E_i}{F_{i-1} \times E_{i-1}} = \frac{(F_{i-1} + N_{i-1} \times R) \times E_i}{F_{i-1} \times E_{i-1}} =$$

$$\frac{(F_{i-1} + F_{i-1} \times E_{i-1} \times R) \times E_i}{F_{i-1} \times E_{i-1}}$$

$$\text{Hence: } \frac{N_i}{N_{i-1}} = (1 + E_{i-1} \times R) \times \frac{E_i}{E_{i-1}}$$

Thus, the growth of the national income is directly pendent on the dynamics of the yield of fixed assets $\left(\frac{E_i}{E_{i-1}}\right)$, and if yield remains fixed (when $\frac{E_i}{E_{i-1}} = 1$) the tive growth of the national income is equal to the yie multiplied by the coefficient R (or $E_{i-1} \times R$).

Furthermore, for the given long-term period of n years it is also possible to establish the average ann index of the growth of the national income depending the particular proportions between consumption and cumulation in the national income, by determing the yield of fixed assets only for the last year of the pla period.

Let us denote the average annual index of the grow of the national income by the letter T $T = \left(\sqrt[n]{\frac{N^n}{N_o}}\right)$.

Using the previously applied symbols we can dete mine T via R and E.

$$T^n = \frac{N_n}{N_o} = \frac{F_n \times E_n}{F_o \times E_o}.$$ In turn, F_n can be expressed

$$F_n = F_o + R \times N_o + R + N_1 + R \times N_2 + \dots + R \times N_{i-1}$$
$$F_o + R \times (N_o + N_1 + N_2 + \dots + N_{i-1}).$$

Since T is the average annual index of the growth the national income in the planned period, then:

$$F_n = F_o + R \times N_o \times (1 + T + T^2 + \dots + T^{n-1});$$

$$\text{Hence, } F_n = F_o + R \times N_o \times \frac{T^n - 1}{T - 1}.$$

Now let us substitute this formula in the equation termined above, and after simplification we get the lowing:

$$E_o \times T^{n-1} - E_o \times (1 + R \times E_n) \times T^n - E_n \times T + E_n$$
$$(1 + R \times E_o) = 0$$

This equation with the unknown T has one positive root, distinct from one. The finding of this root, tha determining T when R and E are given, presents no culty if computers are used. With the help of equati

e can estimate different variants of the relationship
en the structure of the national income, on the one
and the dynamics of the yield of fixed assets, on the
, and do so from the viewpoint of the rate of growth
national income. However, the differing variants
s relationship for the given period of years can only
aborated tentatively, and the important thing is that
appraising the variants and choosing the best one,
nnot as yet be certain that the selected variant is
d the optimum one from the point of view of the
est possible reduction of the time required for build-
e material and technical basis for communism.

is it not possible to first determine the coefficient
ld independently of the magnitude R, which means,
endently of the proportion between consumption and
nulation? For a period in advance this possibility
not exist, but if there is no prior restriction to some
d the coefficient E will depend strictly on some par-
r assumed level of development of the productive
s. On the basis of data provided by modern science
echnology as well as the data on available natural
rces, it is possible to build, as it were, a model of
ptimum structure of production of various products
apita of the population. This would be a draft ver-
of the level of development of the productive forces
would ensure the highest possible productivity of
l labor and the greatest possible satisfaction of the
of society corresponding with the initial data men-
d above. In other words, this means building of a
l of the material and technical base of production
is fully in accord with the most up-to-date achieve-
s of science and technology. We thereby determine
agnitude of the annual national income per capita
e average annual fixed assets per capita corre-
ling to the foregoing level of the development of the
ctive forces. This will give us the coefficient of
E, which is strictly defined for the optimum model
national economy. Analysis shows that, on the ba-
f the optimum model and the coefficient E corre-
ling to it, the nature of the relationship between the
ment of the national income and that of fixed assets
s it possible to determine the size of R which will
e the shortest path to the goal with a simultaneous
y growth in consumption.

eed, although T and n are unknown, T^n (still calcu-
per capita of the population) is already known: it is
to the increase in the national income per capita
the base year to the year in which the optimum
ture of the national economy will be attained. Or
h is the same) we know the increase in the entire
nal income for this as yet unknown span of years
out taking growth of population into account).

ollows from the formula (3) that:

$$T = 1 + \frac{R \times E_n \times E_o \times (T^n - 1)}{E_o \times T^n - E_n} \qquad (4)$$

ce E_o, E_n and T^n are known, the average annual in-
f the growth of the national income is dependent only
e choice of R. In turn, the choice of R has a firm
– the shortest path to the optimum structure of
ction. Indeed, since each variant of R in this case
esponds to a quite definite T, we may also determine
iffering periods n which separate us from the opti-
structure of production with different R's:

$$n = \frac{\lg T^n}{\lg T} \qquad (5)$$

re T^n is a constant magnitude for the different variants of R, and T is determined depending on R by the formula (4).

After the period is determined an adjustment must be made for changes in population during this period in order to derive the levels of production in the specific year n corresponding to the optimum structure of the national economy.

A combination of the conventional planning method for a given period with planning of the shortest period for achieving the optimum structure of the national economy can provide a firmer basis both for long-term and annual plans. This, of course, does not preclude, but assumes, first, adjusting the optimum model on the basis of more recent scientific and engineering data, and second, the preparation of several models (let us say, two or three) with varying degrees of utilization of scientific, technological, and geological surveying data which still require additional verification and study.

Let us assume that we had prepared one such model and found that, for the initially existing population, it corresponded to a national income of 3,700 billion rubles, fixed assets of 6,180 billion rubles, and hence, a coefficient of yield equal to 0.6.

	Base year	Year n	Resulting indexes
N	1,000	3,700	$N_n/N_o = T^n = 3.7$
F	2,000	6,180	$F_n/F_o = 3.09$
E	0.5	0.6	$E_n/E_o = 1.2$

The fact that E increases by only 20% does not at all signify a lagging growth in the effectiveness of capital investments, for as we have ascertained, a final appraisal of the effectiveness of capital investments can be made only by means of the index of the productivity of social labor. Since at the outset we prepared the model without considering the growth of the number of workers in production, $T^n = 3.7$ simultaneously expresses a rise in the productivity of social labor by 3.7 times.

By formula (4) we find the average annual index of the growth of the national income when R equals 0.14:

$$T = 1 + \frac{0.14 \times 0.6 \times 0.5 \times (3.7 - 1)}{0.5 \times 3.7 - 0.6} = 1.091,$$

that is, the average annual rate of growth of the national income will amount to 9.1%. The number of years required to achieve the projected high level of development of the productive forces totals 15:

$$n = \frac{\lg 3.7}{\lg 1.091} = 15.$$

If we increase R, let us say, to 0.16, the average annual rate of growth of the national income will rise to 10.4% and n will be reduced to 13 years.

Hence, the selection of a particular R, and with it, a particular proportion between consumption and accumulation in the national income, is linked with the choice of the shortest period for achieving a completely determinate optimum of production. It also allows for short-term plans to be evaluated from the viewpoint of the maximum winning of time in the process of building communism.

The examined method organically includes the

(Continued on Page 30)

Voprosy Filosofii, No. 1, 1

I. G. Kurakov:

New Problems of the Organization of Socialist Production

The selection of types and specifications of products to be produced in the socialized sector of production, the assignment of quotas for the manufacture of these products among individual enterprises and organizations, the allocation of manpower, machinery and equipment in the production process, the selection and introduction of wage systems and material incentives for the workers, the determination of the chief trend in the activities of organizations, and several other similar tasks are ordinarily reckoned among the so-called organizational questions of production. It is not difficult to see that production organization essentially solves the most important problems involved in perfecting production relations in the socialist society and, consequently, realizes the great possibilities that exist in a country in which the means of production are socialized.

The June (1959) Plenum of the Central Committee of the CPSU has given the personnel involved in production organization a series of new jobs to do which, if they are to be accomplished, will require broader knowledge, and new and advanced ideas and theories. A new main direction has been determined for the activities of the economic councils. Instructions have been issued for the creation of a new system of material incentives for workers which will accelerate the growth of labor productivity. Measures are being taken to improve the organization of scientific and engineering work in the country. New demands have been put before the directors of large and small sectors of production. All this taken together justifies the assertion that the Party has raised the question of the transition to a new, higher stage in the organization of socialist production. It is necessary to devise and introduce a new and still more effective system for the management of the socialist national economy which will be adapted to the needs of the period of building the material and technical base of communism. In this situation, new theoretical studies are necessary, for without them it will be difficult to arrive at the necessary decisions. The present article will present a new attempts in this direction.

The Chief Trend in Economic Council Activities

Noteworthy among the measures set forth in the decisions taken by the June Plenum of the CPSU is the new formulation of the chief trend in the activities of the economic councils and, consequently, of the enterprises under their jurisdiction. The chief trend in the activities of enterprises is now to improve production technology so as to raise labor productivity and to ease working conditions, to accelerate the growth of industrial production, to improve its quality and reduce its cost, and also to reduce the cost and quicken the rate of construction (see the documents of the June Plenum of the CC of the CPSU).

Among the activities of enterprises, the fulfillment
the volume requirements of the plan has heretofore he
the center of the stage, and this unquestionably has
helped to raise labor productivity, to improve the util
tion of production capacities and to reduce production
costs. Abundant data published in the period of prepa
tion for the Plenum and reported at the Plenum indica
however, that concentration of the attention and initiat
of the workers predominantly on fulfillment of the vol
requirements of the plan often leads to technological
servatism, both in the improvement of product specifi
tions and quality, as well as in the mechanization and
automatization of operations and in the improvement
the technological processes of production. Fulfillmen
and overfulfillment of production plans does little to e
list the efforts of plant managers and technical-engine
ing staffs in the drive for fuller utilization of untappe
production potential, improved quality standards, reduced costs and increased profitability of enterprise
erations. There is a very significant discrepancy between output per worker and output per enterprise.

Output per worker is determined by the following si
ple formula:

$$Ow = \frac{H}{P\bar{h}}$$

where: Ow — annual output per worker,
H — annual number of working hours per wo
er in social production,
Ph — average number of working hours per u
of product expended at all enterprises
manufacturing the given product.

The output per worker thus depends on the average
length of the working day and on the social labor time
quired in manufacturing a product (Ph). But, since th
working day is being steadily reduced, the only way to
crease output per worker and per capita of the popula
tion is to cut the labor time required per unit of outp

The output per enterprise is determined by a completely different formula:

$$Op = C \cdot M \cdot S.$$

where: Op — annual output per enterprise,
C — rated annual production capacity of the
enterprise,
M — extent to which the enterprise is provi
with manpower in relation to rated fig
S — extent to which the enterprise is suppl
with raw materials, fuel, power, suppl
and semi-finished goods in relation to
rated figures.

As can be seen from this formula, the output per e
prise depends only indirectly on the social labor time

ired in the manufacture of a product. What it chiefly nds on is the production capacity of the enterprise he extent to which it is provided with manpower, raw rials, fuel and supplies. In order to increase the vol- of production of an enterprise, it is by no means oblig- to cut the required labor time per unit of output. can be done much more simply and easily by bring- n additional production capacity (equipment and build- , additional manpower, raw materials and supplies. this is what many enterprises and organization mana- are doing. Instead of reducing the scale of their pro- on capacity and their utilization of manpower and ma- ls per unit of output, they are concentrating on in- sing these.

ncentration in the activities of enterprises and or- zations largely on the fulfillment of the output re- ements of their plans could not help but retard tech- gical progress and hence, correspondingly, the rate owth of the national economy as well. The elimina- of this shortcoming was begun by the June Plenum of Central Committee of the CPSU. Pointing to the tech- improvement of production as the chief aim of the of the economic councils, the Central Committee of PSU is thereby switching the energies of the huge of large and small production managers to a basic lem which has to be solved if our per capita output is raised to the highest level in the world.

e setting of this new chief goal will involve the modi- ion of many organizational views and methods which een worked out in accordance with the old trend in rprise operations. Up to the present day the per- ance of enterprise and organization managers is still appraised in terms of percentages of fulfillment of t requirements of the plan (the degree of fulfillment signed tasks measured in terms of gross output, ton- , pieces or meters), independently of the methods by n this fulfillment was achieved — whether by the use ditional production capacity or by technical improve- s in the production process. The basic criteria for aising the performance of enterprise and organization gers have therefore to be modified. Until recently, ses and every other form of material incentive to rprise and organization managers and to technical- eering personnel depended on the degree to which ed output volumes were met. Section, shop, enter- and organization managers, who for years have concentrating predominantly on the fulfillment of out- olume assignments, will have to revise their work ally. And finally, much greater importance will have given to the work of the scientific-technical organi- ns which "tailor" new technical equipment and proc- s. These organizations should occupy a leading posi- n the technical improvement of production and in en- g the growth of the country's national income.

is new central orientation is a consequence of the de- ment of the country's productive forces and their in- nt demand for the further improvement of socialist ction relations. The production capacity of our in- y has become so great that losses stemming from production organization are becoming too large to lerated any longer. A one per cent improvement in tilization of existing production facilities, as Com- Khrushchev points out in his report to the 21st Con- s of the CPSU, would yield an additional output of 12 n rubles a year, and by the end of the seven-year d this figure would reach 21 billion rubles.* If the orientation of the activities of enterprises and organizations were modified, much better use could be made of production capacities. The level of knowledge and abilities of our managerial staffs is at present altogether adequate to achieve a rapid transition to new and improved methods of production management, although, of course, the transition will take some time.

The June Plenum of the Central Committee of the CPSU places special emphasis on the major importance which organizational questions have now assumed in the activities of enterprises and organizations. To some degree, what has been set forth above clarifies this important decision of the Plenum. The time it takes to achieve the primary economic goal of the USSR will depend to a decisive degree on how rapidly we will be able to devise and put into practice new and more effective methods of organization of socialist production.

Material Incentives for Executives and Engineering-Technical Personnel

The system of material incentives for executives and engineering-technical personnel in the national economy is based on the socialist principle of distribution in accordance with work done and exerts a tremendous influence on the rate of growth and improvement of the productive forces of the country.

It is very important that this system be designed to achieve a higher labor productivity throughout the national economy and to ensure a rapid rise in the standard of living of the working people.

At various times since the means of production were first placed under public socialist ownership, many methods of providing material incentives for this category of personnel have been tried. Most widely used was the method which can be expressed mathematically in the following formula:

$$\text{Incentive payment} = S_f \div S_o \left(\frac{V}{Vp} - a\right) \qquad (3),$$

where: S_f — per cent of basic salary payable to executives and engineering-technical personnel for 100% fulfillment of the production plan,
S_o — per cent of basic salary computed for every per cent by which the production plan is overfulfilled,
V — actual production volume achieved,
Vp — planned production volume,
a — coefficient, usually taken as unity.

In this case, the most important criterion for awarding material incentive payments is the extent to which the production plans are fulfilled, and at one time this was of great positive value. The success of the previous five-year plans was due in large measure to the introduction of this system of material incentive payments. Its chief advantage lay in that it was simple and easy to understand. Comparison of the planned with the actual production volume made it possible to take quick and effective action in cases of underfulfillment. Social control over the operations of enterprises was considerably simplified. However, the June (1959) Plenum of the Central Committee of the CPSU and, before it, the June (1955) Plenum uncovered the very grave defects in this system of rewards to which we have referred above. It has not been effective in accelerating the technical improvement of production because it did not sufficiently provide for the need to reduce production costs, raise labor productivity and improve the quality of output. In the fourth quarter of 1959 began the introduction of the new system of bonuses for cutting production costs while fulfilling production volume plans. However, in some branches of the national economy (coal, metallurgy and others), bonuses for overfulfillment of production volume plans have been retained. The new system will unquestionably be more effective than its predecessor. In the future, this new system will, of course, be still further improved, and it is important to ascertain the direction which these improvements should take.

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* N. S. Khrushchev, The Control Figures for the Development of the National Economy of the USSR in 1959-1965, 1959, Russian edition, p. 48.

It can be seen from formula (1) that material incentive payments must be directly linked with a reduction of the labor time required to produce a unit of output or, in other words, with an economy of labor time. Even Marx pointed out that the law of the economy of labor time is the first law of every society; so far, however, the material incentive system has been linked only indirectly with this law: in capitalist countries depending on the amount of capital belonging to the entrepreneur, and among us depending on the extent to which production volume plans were fulfilled. Now that we are engaged in improving our system of material incentives to workers, we should peg the size of incentive payments directly to the economy of labor time achieved. If we let E stand for economy of labor time, we can express the new system of material incentive payments by means of the following simple formula:

$$\text{Incentive payment} = S \cdot E \qquad (4),$$

where: S — percentage to be applied to the economy achieved.

The transition to this incentive system is rendered difficult, however, by one very important circumstance. We have as yet no universally accepted method for determining the actual saving in labor time achieved in the production of any given product. The debate over this problem has been going on for three decades already and is not yet resolved. The time has evidently come to make a definite decision, as we will hardly be able to achieve desirable economic results from the technical improvement of production if the question of how to determine the results of this improvement remains open. The following solution of the problem may be proposed.

The amount of labor time saved reveals itself ultimately in the difference between the labor inputs per unit of output expended by its consumer or user and the actual inputs per unit of output expended by its producer. The former inputs are determined by the price of the product (regardless of how this price is arrived at), and the second by the cost of production and the capital expenditures on new production capacity per unit of output produced in the course of a year. Normally, the labor inputs per unit of output by the consumer should coincide with those of the producer, since, under full employment, an excess of the labor inputs by the consumer of output over those of its producer would result in overproduction and, in the opposite case, in underproduction. Consequently, we may write that

$$P = U + pI \qquad (5),$$

where: P — unit price,
U — unit cost,
pI — capital investments for new production facilities per unit of output produced in
course of a year.

In this case wage supplements, the turnover tax, wh
is a part of wages, and the quantity pI, are counted as
surplus product.

The technical improvement of production processes
usually upsets this balance: either the cost per unit c
output is reduced or capital outlays per unit of output
diminished. The result is that the price of the produc
becomes greater than the sum of expenditures (U +pI)
by some amount which we will call "a" and which ess
tially constitutes the saving of labor time per unit of
put. In this case

$$P = U + pI + a$$
$$E = V \cdot a$$
$$\text{and Incentive payments} = S \cdot E = S \cdot V\,(P - U - pI)$$

Let us assume that the price of one kilowatt-hour c
electric power is 14 kopeks, the production cost of on
kilowatt-hour by a given producer is 8 kopeks and the
quantity pI = 3.0 kopeks. Then a = 14 - 8 - 3 = 3 kopek
and with a yearly output at the given power station of
million kilowatt-hours, the total saving would be: E =
250 · 3 = 750 million kopeks. An allowance for premi
to the power station's personnel of 2% of the economi
achieved yields a total yearly amount for premiums c
Incentive payments = 0.02 · 7.5 million = 150 thousand
rubles. This example demonstrates the feasibility of
material incentive system that is simple and at the sa
time fully consonant with the objective law of econom
labor time.

The view is widely held in certain economists' circ
that price is not a measure of the expenditure of soci
labor and that it cannot be employed to determine the
economies of labor time achieved. In their opinion,
price is set as a rule without regard for the actual va
of the product; it is below value for producer goods, a
above value for consumer goods. The fact that the turn
tax is only charged on consumer goods is employed a
proof of this. Practical experience shows that we ha
lost much by agreeing with these arguments. Enterp
managers have long been concentrating on reducing p
duction costs or, in other words, on cutting current e
penditures of their respective enterprises; but the qu
of output, which should be taken into account in deter
mining the price of the product, was relegated to the
background, and this has delayed the improvement of
specifications and of the physical and chemical prope
ties of products. The exhibition of the achievements
the national economy, organized on the occasion of th
June Plenum of the Central Committee of the CPSU,
demonstrated many instances in which the specificat
and quality of products fall short of the potentialities
modern technology. A low quality of output has beco
a typical feature, as it were, of certain branches of p
duction, which to a considerable extent is a conseque
of the inadequate utilization of the price of products
one of the chief indices of production.

In determining the price level for means of produc
two limiting factors are operative: the production co
and profitability of manufacturing these means of pro
duction to their producer and the production cost and
profitability of making a product produced by the use
When the price of the means of production is too high

ser of these items incurs losses in his own produc-
pperations and is compelled to limit his consumption
e minimum. In turn, this cuts the volume of produc-
or the producer and correspondingly raises his pro-
on costs, often to above the planned level. All that
e done then is either to discontinue production of the
s of production concerned, or to bring their price
to a level at which it becomes advantageous to their
to employ them in a considerably greater number of
s. Ultimately, then, prices are arrived at which are
omically profitable for both the producer and the user
e product. As for the turnover tax, it enters into
s and is counted as part of the production cost of the
s of production. True, this tax is levied on the work-
nly when they purchase consumer goods, but it is
rtheless reckoned as a constituent of production costs
together with the usual wage supplement and profit,
rises the surplus product the value of which should
cluded in every product price.

nsumer goods prices are set in the same manner as
of means of production, except that to the quantity
ned there is added that part of the turnover tax which
earlier included in the production cost of the means
oduction, but only partially included in the production
of consumer goods, i.e., through amortization. Amor-
on, as we know, constitutes usually one tenth or one
ieth of the value of means of production, whereas
urnover tax when computed on the means of produc-
must be fully included in the value of the consumer
s, and the difference between it and the part counted
nortization must be added to the factory or plant
of the consumer goods in the form of the turnover

ce consumer goods are final products their price
ot diverge sharply from their value. When price is
value the producer loses interest in production,
is what occurred, for example, in agriculture be-
the prices of farm produce were revised. When price
t above value, the opposite takes place — overproduc-
of consumer goods — and if an enterprise is to main-
uninterrupted production, prices must be reduced.
s case, shortages and overproduction of goods are
factors compelling consumer goods prices to be
tained close to value, with the exception, of course,
rtain consumer articles for which a limited consump-
s planned in advance by the state (alcoholic and dis-
products, perfumeries, etc.).

can be seen from formula (5) that if gluts or shortages
o be avoided, price must be systematically brought
ine with production costs, with the addition of the
nit expenditures involved in the creation of new pro-
ve capacity. This is an objective necessity for the
list society and, at the same time, a powerful incen-
o technological progress. Technical innovations
rise to certain economies of social labor. Within a
in time price should also be reduced to the extent
ese savings, but in this case enterprise managers
to accomplish new technical improvements in order
tain premiums for the new saving of time. In this
er price, systematically brought into line with value,
mes an important factor in technical progress. The
ting attitude towards price that has settled in the
s of certain prominent economists cannot, therefore,
garded as useful. It is high time that product prices
put to use as powerful stimuli to technical progress.
antity pI in formula (5) represents expenditures in-
ed in the creation of new productive capacity prorated per unit of annual output, with I standing for capital outlays per unit of annual output and p for the coefficient of the annual growth of the production capacity for the year in question. If, for example, in the course of a year it is planned to increase the capacity of metallurgical plants by 7%, and the capital outlays per ton of annual output of a plant is equal to 1,300 rubles, then $p = 0.07$ and $pI = 0.07 \cdot 1{,}300 = 91$ rubles. It is quite often thought that all capital outlays are to be amortized; this, however, is a glaring error. Amortization is intended only to maintain productive capacities at their attained level; in order to create new productive capacities, however, society must expend additional working time, and this additional time must necessarily be taken into account in determining actual economies of labor time.

The law of the proportional development of the national economy makes it possible to establish p as a uniform quantity for all branches of the national economy when the determination of actually achieved economies of social labor is involved. Proportional development means essentially that the output of basic types of products must rise each year by a uniform percentage; otherwise the proportionality is disrupted. At the same time, of course, the balance between light and heavy industry must remain favorable to the latter. The accounts of the Central Statistical Board of the USSR include an index that may be utilized at this point — the growth of fixed assets in the national economy. Between 1951 and 1956, these funds increased by about 10% per year, and about the same growth rate is planned for the current seven-year period. Hence, we may say that $p = 0.10$ and

$$\text{Incentive payments} = S \cdot V\,(P - U - 0.10\,k) \qquad (9).$$

This formula reflects the interests of all basic categories of personnel employed in social production, and, of all the variants of material incentive plans possible in socialist production, it may prove to be the most consonant with our theoretical prerequisites. The interests of consumers of products are taken into account through the price of the products, and those of the producers through cost and production volume. Finally, the interests of the creators of new productive capacity and of the state as a whole, which allocates capital investments, are accounted for by the capital outlays per unit. The material incentive payments that result from this formula stimulate managers and engineering-technical workers, not only to fulfill planned production quotas, but to promptly concern themselves with improving the quality of production, reducing production costs and cutting capital outlays per unit, in other words, with all aspects of technical progress in production.

Scientific and Technical Centers

It will not escape the notice of the attentive observer that perhaps the most significant event in the field of production organization over the last two or three decades has been the extraordinarily rapid development of scientific research institutes, designing bureaus, plant laboratories, drafting and other similar organizations, which may be referred to as scientific and technical centers. These centers are rapidly increasing in number not only here, but in the leading capitalist countries as well. Their capacity and the size of their staffs are also increasing. At first there were only the designing bureaus of enterprises, but now these centers include plant laboratories, pilot shops and plants, experimental industrial enterprises and installations. Large-scale institutes are being founded in every increasing numbers. Whereas formerly the work of scientific and technical centers consisted of studies of the laboratory type which culminated mostly in reports and papers, today many of them continue until they have completed and carefully presented tested prototypes of products with full instructions for their mass or serial production, or have issued descriptions of new technical processes carefully tested under production conditions. In other words, the scientific and technical centers, be they independent organizations or attached to enterprises, today produce finished items that are ready to be used in production, and not rough ideas, the realization of which at existing enterprises would, as a rule, require the expenditure of much time and effort. We are thus witnessing with our own eyes the creation of a new and higher type of production, engaged in the elaboration of prototypes of new technology and the technical literature required for its practical application.

Heretofore we were confronted with two basic types of production: that which produces items ready for consumption and that which creates new productive capacity (construction organizations, machine-building plants). Today a third type of production — that of the scientific and technical centers — is acquiring ever greater importance in the life of society. This new type of production evidently has a brilliant future to look forward to. Whereas, today, at most 2% of the total manpower of the country is employed in the scientific and technical centers, thanks to automation and mechanization the relative share of these workers will rapidly increase. In the future, as the integrated mechanization and automation of jobs becomes an accomplished reality, it is probable that the bulk of the workers in all branches of the national economy will be employed in scientific research centers, in the machine-building industry and in construction, while only a relatively insignificant portion will be engaged in the production of finished products.

The social significance of the scientific and technical centers can hardly be overestimated. As they gather more and more of the manpower of the nation into their laboratories, pilot shops and plants and experimental industrial enterprises and installations, they will become an important factor in the liquidation of essential differences between mental and physical labor. More and more of the workers will be employed in creative, constructive jobs, which are the most satisfying to human beings.

The scientific and technical centers operate in the domain of both existing and new production capacities. In regard to the first, attention is focussed primarily on improving the quality and the specifications of the finished product. An improved product usually requires comparatively small additional capital outlays while yielding desirable results for both the producer and the consumer of the product and increasing labor productivity.

At the present time, for example, a complete set of equipment for the underground extraction of coal in the Lugansk district requires a capital expenditure of 265 rubles per ton of annual output, operating costs of 78 rubles per ton of coal extracted, and a labor time input from workers employed in the pit of 0.7 manshifts. But the scientific research center of the coal industry is designing an equipment plant which will cut capital expenditures per unit to 120-130 rubles, the cost of extracting one ton of coal to 28-30 rubles and human labor inputs in the pit to 0.3 manshifts. This example may be taken as typifying the economic significance of the scientific
technical centers for existing enterprises.

For new production capacities, the scientific and t
nical centers usually work out the whole complex of
problems relating to the reduction of capital outlays
unit, production costs, and raising the quality and the
value of the product. In other cases the scientific an
technical centers introduce new technological proces
or replace materials and semi-finished articles with
ter ones. In the final analysis, the effectiveness of t
work is measured by the extent to which they are abl
improve the utilization of existing productive capacit
and to increase the effectiveness of new capital outla
and as a result of all this, to increase the national in
come. If the scientific and technical centers perforn
badly, or if they fail to grow rapidly enough, the annu
rates of growth of our national income will be consid
bly impaired. It may be asserted that the capacity o
these centers and the effectiveness of their work con
tute one of the decisive factors in accelerating the ra
of growth of the national income. As the numbers of
workers employed in scientific research, drafting an
designing organizations increase, the time it takes to
vise and master a new process or machine is shorte
the economic effectiveness of that machine or proces
enhanced and, consequently, the groundwork is laid f
more rapid replacement of obsolete products by new
ones, for bringing technology and production speciali
tion to perfection. Existing productive capacities ar
ginning to produce more and more items of higher qu
ity, while newly created productive capacities are be
ning to yield increasing economic results.

According to data of the Central Statistical Board
the USSR, there were 141,000 scientific workers em-
ployed in the applied scientific research organizatio
1958. The average annual increase in this figure ov
the last eight years has been about 9.5%, while the
average increase in the national income over this sa
period has been 10.7%. It must be assumed that the
growth of the national income is to a considerable ex
tent related to the growth in the number of scientific
workers and to the effectiveness of their work. Othe
wise the output of new technology would lag behind t
requirements of the national economy, and the rate
growth of the national income would inevitably suffe
The link between the rate of growth of national incon
and the effective capacity of scientific research cen
is also becoming more distinct in the capitalist coun
as well, since the competitive positions of firms an
companies on the market depends to an increasing e
tent on the capacity of the scientific research cente
available to them.

From an organizational point of view, the scientifi
and technical centers are now going through the gro
ing pains of their infancy. Many problems of produ
organization, which are quite clear and have been lo
since solved for the usual production enterprise, ar
still far from solved in their application to these ce

The foremost of these problems is how far the sc
tific and technical centers should go in producing fi
products. Many of them even today still limit them
to the publication in the press of conclusions and re
mendations or to the release of sketches or working
drawings of new products. All the rest of the most
cult work of making the pilot models, of testing the
making them operational, or of completing and mas
ing new technological processes, is done by the use

prises, which are usually up to their necks in cur-
production and therefore give only secondary atten-
o the problems involved in introducing technical in-
ions. As a rule, whenever a production enterprise
a large part of the work of devising new techniques
uipment, it takes longer to master them and more
cts end up on the "shelves." Besides, this practice
ders a certain irresponsibility in the business of in-
cing innovations; the designers usually plead delays
e part of the machine-building plants, and the latter
he incomplete state of the proposals made by the de-
rs, and so on.

perience shows that, as a rule, every technical im-
ment is the product of four groups of workers: first,
esearchers (we call them scientific-research work-
who establish the basic principles on which the tech-
innovation will rest; then the designers, who prepare
ngs of the design; after this, experimental shop
rs, who build the pilot model; and finally the work-
t testing installations or enterprises, who test the
l or new technological processes under industrial
tions. The production ties among these four groups
d naturally be as close as among the individual shops
ctions of any industrial enterprise. The best way of
lishing such production ties is to create at the scien-
nd technical centers a complete set of laboratories,
lations and organizations: scientific research labo-
ies, designing or drafting and designing bureaus, ex-
ental shops and testing enterprises or installations.
reation of such complex scientific and technical cen-
s, from our point of view, one of the most urgent
of the moment, both in order to speed up the work-
t and introduction of new technology and to fix the
priate responsibility of the scientific technical cen-
or their assigned work. Several centers already
this kind of full complement of laboratories, installa-
and organizations, and they usually yield the best
s and in the shortest time. Take, for example, the
on industry, in which scientific and research centers
rdinarily engaged in research on new methods of
aft construction, on the design of new types of air-
on building experimental models of these aircraft
esting them under operational conditions. Such inte-
d centers should, of course, be erected first of all
ge-scale industrial enterprises.

second of these urgent problems is the division of
in working out new technical problems, an intensi-
pecialization in scientific-research and designing
tions. Just as at industrial enterprises, specializa-
technological improvements gives incomparably
results than the performance by a scientific and
cal center of many jobs all at once. A brilliant ex-
of this is afforded by the famous Paton Institute,
works only on problems of metal welding. However,
alization without cooperation inevitably leads to a
uplication of effort. The examples cited by Com-
Kostousov, Chairman of the State Committee on
nation and Machine-Building of the Council of Minis-
f the USSR, in his recently published article in *Kom-*
t magazine, 1959, No. 8, are typical in this regard.
than 100 organizations are presently working on the
em of program control of metal-cutting machine
and over 30 on devices for their active control. To
may be added that about 80 organizations are en-
in the designing of boring machines, about 100 on
eory and design of rock-cutters for mining, etc.
the absence of necessary cooperation and

coordination in the work of scientific and technical centers leads to serious overexpenditures of the time of scientific-research and designing staffs.

In industry, the coordination and operation of enterprises is the job of trusts, combines, economic councils and republic organizations. There are, as yet, no such organizations for scientific and technical centers because the coordination of scientific-research and drafting and designing projects, as a rule, embraces organizations belonging not to just one, but to many trusts, economic councils and republics, and cannot be accomplished within the framework of one trust or economic council. Apparently it has now become necessary to reinforce the scientific-technical services of the country by making use of the technical departments of enterprises, trusts and economic councils, the scientific-technical committees of republics, the industrial branch state committees of the USSR and the State Scientific-Technical Committee of the USSR. All work on the technical improvement of production at enterprises, trusts and economic councils must obviously be directed by chief engineers, who should be released from other obligations for this purpose.

The next important organizational problem has to do with the financing of the scientific and technical centers. Actual practice shows that the currently widespread system of financing institutes from state budget funds suffers from grave defects which were exposed at the June Plenum of the Central Committee of the CPSU. Many of the jobs done by institutes are of little urgency. There are not a few workers at scientific-research institutes who have not produced anything useful for years. The completion of projects is often delayed.

Under socialist production conditions, there are possibilities for creating our own more effective system for remunerating the work of scientific-technical staffs, and this must evidently be based on the actual economies derived from introducing the improvements evolved by the institutes, or in other words, the same formula for material incentive payments for technically improving production methods that is suggested for other enterprises and organizations.

The main job of the scientific and technical centers is to ensure steady progress in reducing the labor time expended in the manufacture of products. Therefore, the remuneration for their work must be specifically based on the achieved economies of labor time. Having some working capital available, the scientific-research institutes and the drafting and designing organizations should supplement these funds out of deductions from economies actually achieved in production from the application of their results, and thereby pay out wages, authors' royalties, and prizes, and cover all other administrative and business expenses. The same financing system should be introduced for the remuneration of the work of designing organizations. The latter supply the technical blueprints for new capital investments which, as a rule, should yield high economic returns. Designs which do not provide an appropriate saving in labor time per unit of output as compared with the labor time expended at existing enterprises may be regarded as rejects, not fit for use. Thus, the law of economy of labor time should be made the cornerstone of material incentive payments at every stage and in every branch of production, from enterprises to scientific-research institutes and designing organizations. Under socialist production conditions, it is fully possible to do this.

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The Selection of Technical Innovations for Practical Application

After the June Plenum of the Central Committee of the CPSU, many economic councils, enterprises and organizations set about thoroughly improving production technology and are quite energetically introducing everything they think deserves consideration. However, many years of previous experience in the introduction of technical innovations show that, if reasonable economic returns are to be derived, it is of decisive importance to exercise judgment in the preliminary selection of innovations to be applied. For almost every type of production there are many variants of technological improvements which have been worked out either by various organizations or by individuals. They all appear to be new, as they are distinguished from existing techniques or equipment by some particular peculiar features, but by no means all of them sufficiently increase labor productivity, reduce production costs or cut capital outlays per unit of output. Unfortunately, we still have many cases and examples of technical measures which at first glance appear to be steps forward, but when introduced fail to yield the required economic results. There are more than a few automatic lines in machine-building which are not justifying themselves economically, and more than a few mechanized production sectors in other branches of the national economy which have proved economically inefficient in operation. This important circumstance was taken into account by the June Plenum of the Central Committee of the CPSU, whose decisions strongly emphasize that technical innovations must be aimed above all at increasing labor productivity and improving the other economic indices of production. It is very important, therefore, to carefully select the technical innovations that are to be applied in advance. A system of selecting technical innovations has to be devised that will exclude the possibility of economically disadvantageous decisions.

There is essentially no such system as yet. So far, not even generally accepted methods of determining the economic effectiveness of technical innovations have been devised. Some are guided by the originality and novelty of the technical measure in making their decisions, others by logical reasoning, still others by instructions received from higher authorities or by deadlines for the accomplishment of this or that technical measure. Not long ago, for example, at a conference in Lugansk the problem of methods of mechanizing the separation of rock fragments from the mined coal was discussed. A designing organization that had drawn up a design of a prototype installation for this purpose submitted an obviously unsuitable and expensive prototype installation. And yet this design was accepted for execution after all, and only because otherwise the completion of the mechanization of rock separation would have been delayed. In other cases, unsound technical measures are approved only because of the firm insistence of the organizations or persons who propose them. The lack of a generally accepted and completely objective system for the selection of technical innovations leads to yet another undesirable situation. Organizations and persons who propose measures that are then rejected at one stage or another of higher authority often protest the rejection. Numerous committees are then set up and much of the time of highly qualified specialists is diverted to review these protests. In short, the time is now overripe to create a universally acceptable and effective system for selecting technical innovations.

Finding a basis for comparison is one of the most
portant considerations in the question of the selectio
technical innovations, and this will unquestionably pl
decisive part in any method of selection. A wrong an
swer to the question of selection criteria can open th
way to the mass introduction of inefficient innovation
and thereby considerably retard the development of t
national economy.

In our situation, the basis for comparison is determined by a 12- to 15-year time-limit for achieving the
basic economic goal of the USSR. It will hardly be p
ble within this time to reconstruct or modernize ever
productive capacities created in 1960. This makes it
necessary to require that capital outlays for new cap
ties yield greater economic returns than in analogou
cases in the USA, and that the costs and capital outla
per unit of output that actually prevail in that country
day be taken as a basis for comparison.

At existing production establishments, the job of b
ing the economic effectiveness of already completed
tal investments to a level higher than that which prev
in the USA may be accomplished by improving the sp
fications and quality of finished products, through sp
cialization and the introduction of mass production-l
methods, by improving production technology and sub
tuting more economical materials, supplies and semi
finished goods. Particularly good results are obtain
from the substitution of new for obsolete types of pro
ucts. The cost of preparing for the production of ne
types of products is usually negligible, but it is there
possible to enhance the use value of the finished prod
and thus to increase the effectiveness of utilization
fixed assets. Outlays for preparing for the productio
a new type of lathe at a machine-tool factory, for exa
ple, usually pay for themselves in less than half a ye

Whatever the method adopted for determining the
nomic effectiveness of our technology, the practical
plication of this method will require special economi
knowledge. The designer, planner, scientific worker
production worker must know, of course, how to per
the preliminary calculations of the economic effecti
ness of new technology. The final calculations, howe
can be entrusted only to specially trained and experi
enced economists, since they require a good knowled
the economics of the line of production in question n
only at one's own enterprise or organization, but als
other plants and in other countries. Thoroughly veri
and regularly revised figures are needed on the economics of the particular line of production in every
nically advanced nation of the world, and only perso
who specialize in this work can obtain and interpret

Economists must still be given a large part to pla
working out assignments for scientific, technical an
signing organizations before they commence operati
Carefully worked out assignments based on economi
dices for a given technological process or machine
vent waste in the work of the most highly qualified p
sonnel in the country and channel their work in adva
along the most economical lines. On the other hand, as
ments that are badly drawn up from the economic point
doom the work of scientists and designers in advance.

The possibilities for rapidly creating and properl
training such cadres exist. True, many economists
higher academic degrees are presently engaged in p
ning and statistical work. It will not be very difficul
however, to select some of the experienced economi

(Continued on Page 55)

Planovoe Khoziaistvo, No. 1, 1960

Karpukhin:

lationship Between the Increase in Labor Productivity d Wages in the Seven-Year Plan Period

e control figures for the economic development of
JSSR for 1959-1965 point out that "an important task
be to ensure in all branches of the national economy
ore rapid growth of labor productivity than of wages
n essential condition for the further lowering of pro-
on costs, growth of accumulation and improvement
e material well-being of the working people."

is more rapid growth of labor productivity is an ob-
ve necessity that must be constantly reckoned with
drawing up plans both for each individual enterprise
for the national economy as a whole. As is well
n, the increase in labor productivity is an important
r in the reduction of production costs. All other con-
ns notwithstanding, however, there can be no such
ction if wages increase as fast as, or faster than, labor productivity. In that case, all the savings will go to increase wages. As a result, the share of accumulation in the national income will decrease and this, in its turn, will slow down the growth of social production, which is the basis for the uninterrupted improvement in the living standards of the working people.

At the same time, the relationship between the rate of growth of wages and that of labor productivity must be economically grounded, for if wages are allowed to lag unjustifiably too far behind, material incentives for increasing labor productivity will weaken.

The Soviet Union's Seven-Year Plan of economic development (1959-1965) provides for the following rates of growth of labor productivity and money wages (in per cent):

	Total Increase in Seven Years	Annual Average Increase
Labor productivity per employed person:		
in industry	45-50	5.5-6.0
in construction	60-65	6.9-7.4
on railways	34-37	4.3-4.6
at state farms	60-65	6.9-7.4
Average wages and salaries in the national economy	26	3.4

e more rapid growth of labor productivity than of
s makes it possible to considerably lower produc-
costs and to ensure the necessary accumulations.
e seven years ending in 1965, the reduction of pro-
on costs (in comparable prices) will come to at
11.5%. More than half of this figure, approximate-
, will be accounted for by the more rapid growth of
productivity than of wages.

e more rapid growth of labor productivity than of
s depends chiefly on the combination of factors
ng for the enhancement of labor productivity.
ere are two groups of such factors and each influ-
s the increase in wages in its own way. Such factors
e introduction of new techniques, mechanization and
nation of production processes, modernization of
oment, specialization in production, etc., create con-
ns for the more rapid growth of labor productivity
of wages. These factors are created not only by in-
ual teams, but also by society as a whole. Utiliza-
of new machines, over-all mechanization and auto-
on of production processes, etc., should benefit not
the workers of the enterprises concerned, but the
e of society. The increase in the wages of workers
oyed in branches equipped with new plant, for instance, must depend on the extent to which they participate in technical progress, on the enhancement of their qualifications, and also on the additional remuneration provided for the purpose of stimulating the introduction of new techniques in industry.

The result of the operation of another group of factors, linked directly with the increase in the quantity and improvement in the quality of people's labor, is an increase in wages at a rate equal to that of the growth of labor productivity. These factors include: enhancement of workers' qualifications, reduction of waste and of loss of working time between shifts, etc.

The control figures for the economic development of the USSR for 1959-1965, adopted by the 21st Congress of the Party and the decision of the June (1959) Plenary Session of the CPSU Central Committee stress that the chief and decisive means for ensuring further technical progress in the national economy and, consequently, further growth of labor productivity, reduction of production costs and improvement of the quality of output, are over-all mechanization and automation of production. Therein lies one of the pre-conditions for a more rapid growth of labor productivity than of wages during the Seven-Year Plan period.

Over-all mechanization in industry and other branches of the national economy is achieved mainly through the introduction of new machines and equipment, designed for each branch by specialized machine-building enterprises.

The achievement of over-all mechanization is being accompanied by intensified automation of production, by the transition from the automation of individual units and installations to the over-all automation of shops and factories. In the seven-year period, the machine-building industry alone will receive at least 1,300 automatic production lines and will increase the use of machine tools with automatic program control. In the non-ferrous and ferrous metals industries, it is planned to automate 250 mining installations, 114 blast and 177 open-hearth furnaces, 45 rolling mills, etc. As a result, the level of mechanization and automation in the non-ferrous metals industry will reach 80%, labor productivity will thereby rise 50%, and more than 50,000 people will be released for other work. Introduction of automation at concentrating plants in the coal industry will make it possible to increase labor productivity by 2.5-3 times and to release up to 50,000 workers. In the chemical industry, it is planned to automate more than 150 workshops and production processes, and this will increase labor productivity by at least 30% and lower production costs by 10-15%. In the machine-building industry, the level of mechanization and automation will reach between 60% and 70%, while labor productivity will rise by 60%. In the light and food industries, more than 10,600 new automatic lines and over 50,000 automatic packing machines will be introduced; in the food industry this will increase labor productivity by 40%, decrease the number of people employed by 20%, and reduce production costs by 30%.

Introduction of new machines and equipment during the Seven-Year Plan will be accompanied by extensive modernization of the machinery and mechanisms now in operation and this too will be a major factor in the increase of labor productivity. In the seven years it is planned to modernize about 400,000 machine tools. Their productivity will be increased by 25% on the average. This will cost about 2.8 billion rubles and will save the country 10 billion rubles in the seven-year period.

One of the most important factors in technical progress and an essential condition for the mechanization and automation of production, as well as for creating a new progressive technology, is electrification. The current seven-year period will be a decisive stage in the implementation of Lenin's idea of the country's over-all electrification. In 1965 electric power output will come to 500-520 billion kwh. as against 233 billion kwh. in 1958. The average annual increase in electric power output in the seven years will be 12%. The per capita output in 1965 will be 2,300 kwh. compared with 1,028 kwh. in 1957. The amount of electric power per worker in industry will almost double. All this will help to increase labor productivity.

Chemistry is destined to play a big role in the enhancement of labor productivity. The replacement of natural raw materials by synthetic ones which are cheaper to produce and process will save an enormous amount of social labor. The use of plastics in machine building increases output by three to eight times. In light industry it costs three to nine times less to produce staple fibers than natural fibers.

The growth of labor productivity in industry and in the entire national economy will be greatly influenced by the changes in industrial structure envisaged by the plan an first and foremost, by a fundamental change in the fuel ance through a rapid expansion of the oil and gas industries. The output of coal per worker (in conventional fu is almost six times less than that of oil and approximat ly twenty times less than that of gas. Estimates show t if the structure of the fuel balance prevailing in 1958 we to remain, the normal supply of fuel in the country woul require the employment of an additional 350,000 worker

In present-day conditions, labor productivity depends great deal on specialization and cooperation in industry The construction of specialized enterprises will make i possible to organize mass production flows and conside bly increase output per worker. Experience shows that the output of bracings and tools at specialized plants raises labor productivity from three to five times and r duces their production costs from eight to ten times. I 1965 specialized enterprises will manufacture 70-75% c all standard tools, 75-80% of the bracings and 100% of welding elements. Specialized shops will account for 9 of the castings. In the seven years ending in 1965, specialization will save the country 11 billion rubles at pr paratory shops and 3 billion rubles on the production of standardized tools.

Labor productivity in the period under review will be greatly influenced by the improved distribution of the pr ductive forces throughout the country and especially by the accelerated economic development of the eastern areas, which often possess better mining-geological an economic conditions which make it possible to produce same goods with smaller expenditures of labor and resources than in the western and central areas.

At the same time, there are factors making for a ris in wages along with an increase in the output per worke The cultural and technical level of the working class wi rise considerably in the seven years ending in 1965. T is being expedited by the extension of the network of te nical schools and various qualification courses. A maj role in the growth of working-class skills in general wi be played by the enlistment into industry of youth with secondary education. All this will raise the skills of workers and, consequently, average wages. What is mo the rise in the cultural and technical level of the worki masses through the introduction and development of ne techniques, and the narrowing of the gap between the sk levels of different groups of factory and office workers also the basis for the gradual narrowing of the gap between the remuneration of the lower and higher-paid groups. This process is already in effect and is reflec in the wage scales which are being worked out in conne tion with the adjustment of wages, scales in which the between the extreme groups is being reduced.

The relationship between the rates of growth of labo productivity and wages in industry and in the entire national economy will also be influenced by the interrelations between the development of industries with differ conditions of remuneration of labor, by changes in the relative share of enterprises in areas with different le els of wages, etc. The planned high rate of developme of the non-ferrous and ferrous metals industries, and particularly of their ore base, the increase in the outp of chemicals, the high rate of the country's electrifica tion, and the expansion of the coal and especially the o and gas industries, that is, industries with the highest wages, as well as the development on a larger scale o the natural wealth in the eastern areas, where worker are paid special allowances — all this will undoubtedly

o a certain increase in average wages in industry
the entire national economy.

relationship between the rates of growth of labor
ctivity and wages in the Seven-Year Plan period
e influenced to a certain extent by the measures that
been undertaken to increase the wages of lower-paid
y and office workers, to adjust wages, and by the
fer of factory and office workers to a shorter work-
y. These measures considerably increase average
, on the one hand, and create favorable conditions
more rapid growth of labor productivity, on the oth-

first to benefit from new conditions of remunera-
nd simultaneous reduction of the working day were
orkers occupied in underground work and the en-
s and technicians of the Donbas and Lvov-Volynsk
basins. That was at the end of 1956. They were fol-
a year later by the workers and employees of the
nining, metallurgical and coking-chemical enter-
s. Adjustment of wages is accompanied, as a rule,
eir increase. Thus, the wages of the Donbas miners
30% on the average, while those of the face workers
ased even more, and the wages of steel workers in
uthern and central areas of the USSR went up by 22-34%.

adjustment of wages in some of the leading branch-
heavy industry, in the coal, shale, steel, chemi-
d cement industries, and at the enterprises manu-
ing reinforced concrete articles, details, etc., be-
1958. All this demanded considerable additional
s by the state. In 1956-1958 several billion rubles
spent on the adjustment of wages, effected simul-
usly with the reduction of the working day.

ording to the resolutions of the 21st CPSU Con-
, the adjustment of wages in all branches of the na-
economy is to be completed in 1962. The dates of
troduction of new scales of remuneration were giv-
the decision adopted in September 1959 by the Cen-
ommittee of the CPSU, the USSR Council of Minis-
nd the USSR Central Council of Trade Unions on
tes for the completion of the transfer to a shorter
ng day and the adjustment of wages of the factory
fice workers in the various branches of the nation-
nomy and economic areas.

important element in the adjustment of wages pro-
for by the Seven-Year Plan is the increase in the
-paid brackets. As is known, the minimum wages
raised to 270-350 rubles in 1957 and the workers,
yees and students receiving less than 370 rubles
exempted from taxes. As a result, the wages in
wer-paid categories rose by 33% on the average.
will be a further considerable increase in mini-
wages in the seven years ending in 1965. It will be
ed in two stages: in the first (1959-1962), wages
e increased to 400-450 rubles, and in the second
-1965) to 500-600 rubles a month. While average
will increase by 26%, the rise in the case of low-
id factory and office workers will come to 70-80%.
same time, the wages of the medium-paid work-
d employees will also be raised somewhat.

important precondition for the adjustment of wages
switch-over to unified rates, with the role which
anch concerned plays in the national economy and
orking conditions being taken into account. The
s within the wage scales are being sharply reduced
stead of the present seven, eight and ten grades
will be, as a rule, six grades, with the ratio be-
the first and the last set at 1:2 in machine building and several other branches of heavy industry, and 1:1.8 in the light and food industries. This will help to strengthen the principle of material incentive and narrow the gap between the minimum and maximum wages.

The additional state expenses for the increase in the wages of lower and medium-paid factory and office workers and for the adjustment of remuneration of labor will come to 96.2 billion rubles in seven years.

A correct combination of the above-mentioned factors will make it possible to steadily increase the wages of workers and employees and at the same time to ensure the more rapid growth of labor productivity. To this end, conditions ensuring an optimum relationship between the rates of growth of labor productivity and wages must be created in every economic council, every branch and every enterprise.

The June 1959 Plenary Session of the Central Committee of the CPSU drew the attention of the Party, Soviet and economic organizations to the necessity of further ensuring the more rapid growth of labor productivity than of wages, this being the basis of the socialist accumulation needed for the continued expansion of production and the rise in the people's well-being.

But this is not being done everywhere. While in 1959 the rate of growth of labor productivity was on the whole more rapid than that of wages, many enterprises and some economic councils allowed wages to grow more rapidly than labor productivity. The main reasons for this were shortcomings in the preparation and introduction of measures making for increased labor productivity, as well as serious shortcomings in the establishment of labor quotas and wages at many enterprises.

Conditions for the more rapid rate of growth of labor productivity than of wages should be provided for by the plans for organizational and technical measures at every enterprise. These plans should determine the system of measures which would make it possible to ensure a more rapid growth of labor productivity along with a reduction of the working day and an increase of wages. This system should be based on factors making for an improvement of technique and organization of production which would reduce labor requirements and raise labor productivity at a rate faster than that of the increase in wages.

One of the main weapons for regulating this relationship is the revision of quotas. According to the prevailing procedure, the outdated quotas are being gradually replaced by new ones as organizational and technical measures are introduced to facilitate operations. Some enterprises, however, procrastinate with the revision of quotas for months after implementing organizational and technical measures, and allow the quotas to accumulate and then revise them "wholesale." This is a reversion to the old method of simultaneous revision of quotas, a method that failed to justify itself. It leads to a reduction of wages in the revision phase, and the wage level is then "boosted" in every way, until finally the rate of increase in wages becomes greater than that of labor productivity.

The question of the relationship between the rate of growth of labor productivity and that of wages is definitely of great import, for the rate of reduction of production costs and the creation of effective material incentives for increasing labor productivity and output, depend on its correct solution. However, for the economy as a whole, a comparison between the rate of growth of labor productivity in individual branches and that of the workers' money wages is not sufficient. Society is interested, first and foremost, in material relationships, and for this it is extremely important to counterpose the rate of growth of labor productivity and the rate of growth of real wages. The growth of labor productivity must always be more rapid than that of wages. This necessarily flows from the basic economic law of socialism, for there can be no steady expansion and perfection of socialist production on the basis of up-to-date technology without the growth of socialist accumulation.

Real wages in the USSR increase in different ways, but primarily through a rise in money earnings and a reduction in the retail prices of consumer goods and services, the form preferred depending on the concrete conditions and economic and political tasks in every phase of socialist construction. From 1947 to 1954 the real wages of factory and office workers were increased primarily through the reduction of prices. As a result of seven reductions, state retail prices of foodstuffs and manufactured goods decreased by 2.3 times. This sharp reduction of retail prices was called for by the need to raise the Soviet people's real level of consumption, which dropped during the war, and to strengthen the ruble. This practice, however, had its shortcomings. While effecting this sharp reduction in prices, the state could not undertake the measures necessary to eliminate the wartime shortcomings in the fixing of wages and to raise money wages at a rate that would stimulate the workers' interest in increasing labor productivity. In the Fifth Five-Year Plan, prices dropped 26% and money wages increased 10%. In other words, more than two-thirds of the increase in real wages was accounted for by the reduction in prices and less than one-third by the increase in money wages.

The situation is changing in the current seven-year period. It is planned to increase real wages mainly by raising money wages, particularly in the lower-paid categories, and also by adjusting wages and by increasing material incentives to stimulate workers' interest in the results of their labor.

Speaking at a reception given in the Kremlin on November 14, 1958, for the graduates of military academies, Comrade N. S. Khrushchev said: "It is hardly expedient to carry out a general reduction in prices as was the case a few years ago, for the ones to benefit most from such a reduction of prices were the higher-paid categories of personnel. It will be more correct to use the corresponding funds to increase the money earnings of the lower and medium-paid categories of workers and employees and to raise the minimum pensions."

Apart from the increase in money wages, there will be a reduction in public catering prices and some reduction in state retail prices, chiefly to do away with discrepancies in the prices of certain goods and to prevent "overstocking." There was a reduction in the prices of a number of goods on July 1, 1959, including the prices of watches, which were decreased by 19-30%. This will save the population approximately 6 billion rubles a year. Estimates show that a reduction in public catering prices by just 1% will save the population up to 1.5 billion rubles in 1965. Real wages will also be considerably increased through the abolition of income taxes, as projected by the 21st Congress of the CPSU.

In a socialist society, the increase in real wages is the chief method of improving the living standards of the factory and office workers, although real wages are only a part of the real income which they receive. The other part of the incomes comes from social consumption funds and includes state expenditures on free education, free medical services, pensions, maintenance of boarding schools, kindergartens, creches and sanatoria, and oth social and cultural needs. In the present phase of exte sive building of communism, society's expenses on the needs will continue to grow and at a faster rate than wa and the fund of private consumption. In 1965 social co sumption funds will total 360 billion rubles, or 1.7 tim the 1958 figure. The wage fund in the seven years wil crease 1.5 times. All this requires a comparison of t growth of labor productivity not only with the increase real wages but also with the increase in real incomes the working people. For a more correct determinatio material relationships in social production and in the tribution of the national income, it is necessary to con pare the dynamics of the working people's real income with the dynamics of labor productivity.

From a social point of view, labor productivity is no limited only to the economy of living labor, characteri by the output per worker per unit of time. An increas the productivity of social labor means a reduction in t sum total of labor, both living and materialized, expen on the output of some product, or an increase in the av age per-worker output of material goods on the scale the entire national economy and on the basis of the mo effective utilization of living and materialized labor, a also its rational distribution within the whole society. Karl Marx pointed out that "in a society where produc regulate their production according to an earlier outli plan ... labor productivity would undoubtedly be measu on this scale." (1)

The increase in the productivity of social labor is t basic factory in the growth of the national income, whi reflects the country's national economic development characterizes the people's living standards. As the na tional economy of the USSR develops, the share of the crease in the national income attributable to greater l productivity will grow. In the First Five-Year Plan, creased labor productivity accounted for 57% of the in crease in the national income, in the second — the fig was 67%, in the fourth — it was already 80%, and in th fifth — all of 90%. In the current Seven-Year Plan, ni tenths of the increase in the national income will com from greater labor productivity.

In this connection, as an index of the productivity of cial labor achieved in the country, we may use the vol of national income per worker occupied in the sphere material production. Proceeding from this, we may c late the dynamics of labor productivity and observe ho real wages and real incomes of the working people ch as a result of the growth in labor productivity. In 195 the national income of the Soviet Union was 126% abov that of 1950, and the number of people engaged in the branches of material production, according to prelim estimates, increased by 13%. Consequently, between and 1958 labor productivity increased by 200% ($\frac{226}{113}$). this period, the real incomes of factory and office wo rose 1.6 times. The ratio between the rate of growth labor productivity and the rate of growth of real inco was 1.7:1. With the national income increasing 62-65 the Seven-Year Plan period, and the number of people gaged in the sphere of material production rising 9-1 the increase in labor productivity between 1958 and 1 will come to about 50% ($\frac{162-165}{109}$). It is planned to inc the real incomes of factory and office workers by 40 Thus, the ratio between the rate of growth of labor pr tivity and the rate of growth of real incomes will be 1.3:1.

socialist society, therefore, the steady growth of oductivity of social labor is invariably accompanied rowth in the working people's real incomes, with productivity rising more rapidly than real incomes. uld also be noted that in the current Seven-Year he gap between their rates of growth is being some- narrowed. This proves that the present-day level of opment of the socialist economy makes it possible celerate expanded socialist reproduction and at the time satisfy more fully the material requirements people.

relationship between the growth of labor produc- and that of real wages and real incomes in general, e basic national economic proportions which deter- the rate and scale of expanded socialist reproduc- re closely linked and are interdependent. This s, first and foremost, the proportions between so- roduction and private consumption, production of s of production and production of consumer goods, ction for oneself and production for society, accumu- and consumption in the national income, effective nd of the population and the supply available to meet

he Seven-Year Plan, the relationship between the h of labor productivity and real incomes is closely with the proportion between the consumption and ulation funds in the national income. In order to ve the goal of socialist production — that is, to fully y the growing requirements of all members of so- — it is necessary to systematically increase both of the national income: the consumption fund, which sents the sum total of the material values that go ly to satisfy the personal needs of the working peo- d the social requirements in items of consumption, e accumulation fund, which consists mainly of the s of production and partially of consumer goods or expanding production. To ensure normal expan- f socialist reproduction, it is necessary to estab- n optimum proportion between the rate of growth of cumulation fund and that of the consumption fund. can be no steady technical progress in the nation- nomy without appropriate accumulation, and there- no steady increase in the volume of production that o satisfy the needs of the members of society. erefore, if real wages, which constitute a large part consumption fund, grow more rapidly than labor ctivity, this will definitely have adverse affects on tio between the growth of accumulation and the h of consumption, and will upset the optimum pro- n between them.

more rapid growth of labor productivity than of ages and real incomes, provided for by the Seven- Plan for 1959-1965, makes it possible to maintain timum proportion between the rate of growth of ulation and that of consumption. While the nation- ome in these seven years will increase by 62-65%, cumulation fund will rise by 68-72% and the con- ion fund by 60-63%. This creates conditions for st capital investments provided in the plan, and a l expansion of socialist reproduction, for further sing the consumption fund and turning the USSR country with the highest living standard in the

relationships between the growth of labor produc- and of real wages and real incomes in general, be- accumulation and consumption in the national in- are directly linked with the extremely important national economic proportion between the two basic sub-divisions of social production — production of means of production and production of consumer goods. "To expand production, to 'accumulate' in the strict sense of the word," it is necessary, V. I. Lenin wrote, "first to produce the means of production, and for this, consequently, to expand the branch of social production which manufactures means of production." (2)

The link between these proportions is reflected in the fact that the growth of labor productivity, which in socialist society is mainly the result of technical progress, is based on the continued increase in the output of means of production, while real wages are directly determined by the volume of production of consumer goods. The means of production (tools and instruments of labor) constitute the main part of the accumulation fund, which also includes the items of consumption intended for the workers newly enlisted in production; at the same time, the consumption fund is made up chiefly of consumer goods. Consequently, to ensure a more rapid growth of labor productivity than of both real wages and real incomes in general, and to effect the necessary accumulation, it is essential for sub-division I to grow more rapidly than sub-division II.

Being the result of the law of the priority development of the production of means of production, the correct relationships between the growth of labor productivity and that of real wages is one of the prerequisites for the implementation of this law. Indeed, as the basic factor in the increase of all production, labor productivity, given its more rapid growth in the branches of sub-division I than in sub-division II, ensures the more rapid expansion of the output of means of production than of consumer goods.

The Seven-Year Plan defines the objectively necessary proportions between all these indices, which makes it possible to constantly expand socialist reproduction at rapid rates and to steadily improve the well-being of the people.

The relationship between the increase in the output of capital goods and of consumer goods, of the accumulation fund and the consumption fund in national income, of labor productivity and the real incomes of the working people will be as follows in the Seven-Year Plan (see table shown at the top of the following page).

In establishing the relationships between the growth of labor productivity and of wages, it is necessary to take into account the proportion between the money incomes of the population and the available resources of consumer goods. In other words, expenditures on the remuneration of labor must correspond with the total volume of output of consumer goods and the size of commodity circulation. Non-fulfillment of the labor productivity plan and over-expenditures on wages may lead to a discrepancy between the expenditures on the remuneration of labor and the total volume of output of consumer goods, between effective demand and supply. In the Seven-Year-Plan period, the consumption fund in the national income will increase by 60-63%, while the output of consumer goods will rise by 62-65% and retail trade turnover of the state and co-operative trade organizations by about 62% (in comparable prices).

The question of the relationship between the growth of labor productivity and that of wages should be constantly at the center of attention of the planning agencies, economic councils and individual enterprises. In determining the basic plan indices for a branch,

	Increase in 1959-1965 (in percent)
1. National income	62-65
2. Accumulation fund	68-72
3. Consumption fund	60-63
4. Output of means of production (Group "A")	85-88
5. Output of consumer goods (Group "B")	62-65
6. Ratio of increase in output of means of production to that of consumer goods (5:6)	1:35
7. Productivity of social labor (national income divided by number of people engaged in material production)	50
8. Real incomes of workers and employees (per person)	40
9. Ratio of growth of labor productivity to growth of real incomes (7:8)	1.3

economic area or individual enterprise in every particular phase, the planners should analyze in detail the factors which make for the more rapid growth of labor productivity than of wages, and calculate how much more rapid it is. Every branch and area has its own specific conditions which influence this proportion, and they should be carefully reckoned with. A great deal of help in the solution of these problems must be expected from research institutions and organizations.

Literature Cited

(1) K. Marx, Capital, Vol. III, p. 272 (Russian edition).

(2) V. I. Lenin, Collected Works, Vol. 2, p. 137 (R sian edition).

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SMEKHOV (Continued From Page 17)

establishment of the necessary structural changes in the national economy. Indeed, although the quantitative relationships in the foregoing formulas apply only to general magnitudes for the whole of the national economy, the determination of the yield E_n is connected with the building of an absolutely determinate structure of the national economy corresponding to the projected technical changes in the sphere of production. As for the methods of drafting this structure, they involve the preparation of a system of balances and an analysis of the dynamics of intersector relationships. This requires special consideration and goes beyond the framework of this article. It should, however, be noted that all the original objective data required for projecting the optimum structure undoubtedly exists.

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An analysis of the interconnection between capital investments and the rates of reproduction leads to the following conclusions:

1. In order to further improve long-term planning of the national economy it is very important to accurately measure the influence exerted by different variants of its structure and the yield of fixed assets and their interaction on the growth of the national income. The foregoi formulas, which link the rate of growth of the national income with its structure and also with the yield of fi assets, permit precise quantitative evaluations to be made of projected long-term plans of capital investm from the viewpoint of rates of expanded reproduction.

2. The quantitative interrelations in the national ec omy established above also enable us to accurately de mine the influence of different variants of the structu of the national income on the period required for achi ing the level of productive forces which corresponds the latest achievements in science and technology.

NOTES

(1) V. I. Lenin, Collected Works, Vol. 32, p. 302 (R sian edition).

(2) The editorial board considers it useful to discu the questions raised by B. Smekhov's article in a futu issue of this journal, especially those connected with establishment of a quantitative relationship between t rates of social reproduction, the structure of the nati income and changes in the yield of fixed assets.

Voprosy Ekonomiki, No. 2, 1960

Volkhov: *

rengthening the Cost-Accounting Principle in Industry

recent years, particularly in connection with the re-
nization of industrial and construction management,
ries of important measures have been taken in our
try to strengthen the cost accounting principle in in-
ry: the system of subsidies has been abolished, the
ning system reorganized, the rights of enterprises
nded, etc. Implementation of the historic decisions
e 21st Congress of the CPSU demands the further im-
ement of cost accounting. The solution of this task
rectly bound up with the improved application of the
of value, which requires that the production and ex-
ge of commodities conform to the socially necessary
nditures of labor.

e connection between cost accounting and the law of
e is sometimes reduced in our literature to the re-
ement that the cost of production be commensurate
its results in money form. This interpretation of
natter does not reveal the essence of cost accounting
specific method of economic management, for com-
surability of the cost with the results of production
ed even before cost accounting was adopted, under
udget-estimate system of management when enter-
es were financed by the budget in accordance with
planned volume of output.

reality, the connection between cost accounting and
aw of value is primarily that the exchange between
rprises is based on the value of the output produced
realized by them. This is confirmed by the fact that
unds derived by enterprises in the form of income
esent the sum of the prices of products realized by
, and therefore constitute the monetary expression
eir value.

e existence of commodity production in socialist so-
points to the necessity for additional control of the
espondence of production to the needs of society
ugh the medium of market exchange, i.e., the pur-
e and sale of goods. V. I. Lenin pointed out that by
modity exchange "a check of the correct interrela-
hip between industry and agriculture..."* is effected.
e interrelations between socialist enterprises cost
unting serves as an additional means of checking
her production conforms to social needs. Its charac-
tic feature is the receipt of funds by the enterprises
ugh the medium of purchase and sale, i.e., realiza-
of their output. In contrast to this, the incomes of
rprises which do not operate on the cost accounting
ciple represent funds received from the budget. Budg-
financing may, in one degree or another, depend
e volume of output, but then the realization of out-
s not the source of income of the enterprise. Reim-
ement of the enterprise's expenditures out of its own
eeds makes for an organic dependence of income on
alue of goods manufactured and sold. Here, the
ity and quality of the output are subjected to control
e consumers.

Under socialism the law of value operates in the system of economic laws engendered by the socialist mode of production. The basic economic law, the law of planned proportional development, the law of distribution according to labor, and the other economic laws of socialism, influence the value relations between cost accounting enterprises. In accordance with the requirements of these laws, the socialist state, in fixing planned wholesale prices, consciously regulates the degree to which the cost of the products realized by the enterprises is reimbursed. Under the existing system of wholesale prices, the principle of self-support of enterprises finds concrete expression in the reimbursement of the monetary expenditures involved in the production and realization of output in accordance with the social rates, and in transferring to the enterprise of a part of the product created by work for society. The rest of the surplus product directly enters the centralized state fund through the mechanism of prices and budgetary payments.

While allowing for a deviation in wholesale prices from the value of the product realized by the enterprises, the economic laws of socialism determine the limits of this deviation. The minimum funds received from society by the enterprise should suffice to cover the cost of production and sale of products. Otherwise the enterprise cannot recover the fixed and working capital consumed in the process of production, and ensure simple reproduction. If enterprises fail to derive this minimum of funds, the state is forced to give them financial aid in the form of subsidies.

The subsidy system contradicts the requirement of the law of value for the reimbursement of the expenditures of enterprises, violates the relation between the receipt of funds by an enterprise and the results of its work, leads to parasitical tendencies among enterprises, and weakens their material incentive to increase output and lower production costs. All this undermines the foundation of cost accounting. Hence, the struggle to strengthen the cost-accounting principle implies curtailment and abolition of the subsidy system. The principal method of putting an end to operation at a loss is the reduction of expenditures, although in certain periods a temporary rise in wholesale prices may also be necessary. As far back as 1936, and again in 1939-1940, wholesale prices were raised with a view to abolishing the system of subsidies. But at that time profitable operation, without losses, of a number of leading industries — coal, building materials, timber, and ferrous metallurgy — was not ensured. During the war, because of the rise in production costs the number of enterprises working at a loss rose sharply. The 1949 wholesale price reform made it possible to put an end to subsidies. However, in subsequent years, for various reasons, including higher wages without an adequately high growth of labor productivity, production costs in the coal and some other industries increased, resulting in a partial resumption of subsidies. In Soviet industry as a whole the number of enterprises

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I. Lenin, Collected Works, Vol. 32, p. 362 (Russian
on).

operating at a planned loss at present exceeds 20% of the total, with considerable variation in the different economic councils and republics. Thus, more than 30% of the enterprises of the Stalino Economic Council operated at a planned loss in 1958.

The system of cost accounting can be strengthened only by the speediest liquidation of operation at a loss, which is altogether intolerable under the new conditions of industrial management. Many enterprises should be able to solve this problem without raising wholesale prices by introducing measures which would drastically reduce production costs. Where elimination of losses requires much time, the need for higher wholesale prices may arise.

The upper limit of wholesale prices is fixed by the extent to which it is possible and expedient to leave at the disposal of cost accounting enterprises a part of their surplus product in the form of profit. The creation and utilization of profit is of the utmost importance in the cost accounting system. The level of profit is one of the basic qualitative indices in the work of cost accounting enterprises. The material incentive of enterprise personnel depends upon the way the profits are used. Deductions from profits for the state budget serve the financial authorities as a means of control.

Under the new forms of management of industry and construction the role of profit in cost accounting has grown. The financing of capital investments and replacement of working capital from the enterprises' own resources requires a higher proportion of profits in the total volume of the surplus product. Enhancing the economic effect of the financial system on the work of enterprises makes it necessary to increase the deductions from profits for the state budget in a number of industries. The higher proportion of profits in the total volume of the surplus product will increase the material interest of enterprises in the results of their operations.

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Consistent application of the principle of operating on a paying basis stimulates the workers of cost accounting enterprises in their effort to economize on social labor and to achieve technical progress. This is achieved by reimbursing the expenditures of enterprises on goods produced and sold on the basis of their social, and not individual, value, i.e., the socially necessary rates of expenditure of raw and other materials and working time. Inasmuch as expenditures in excess of these rates are not covered by society, the enterprises are stimulated to keep within the limits of socially necessary labor expenditures, and to reduce them constantly. The chief way of saving labor is to introduce modern technology. Hence, cost accounting serves as a stimulus to technical progress.

Of special importance under present conditions is the question of strengthening the incentives provided by cost accounting for enterprises to struggle for better use and technical improvement of their fixed assets.

To take advantage of the tremendous opportunities for expanding socialist production created by the rapid growth of fixed assets, enterprises should be made more interested in the most rational and efficient use of their production machinery and in steady technical progress. The existing system of cost accounting does not yet sufficiently meet this important purpose.

To this day the requirement for the complete reimbursement by enterprises of the value of consumed fixed assets continues to be violated in a number of industries. From year to year the losses from liquidation of fixed assets continue to grow: in the coal industry they amo to 70% of the original cost, in the timber and woodwork ing industries to 60%, in the building materials industr 50%, etc. These losses are written off as reductions o authorized assets, and in essence constitute a conceal form of state subsidy incompatible with cost accountin This is not all, however. Representing, as they do, a partial depreciation charge, the losses due to liquidati of fixed assets artificially reduce production costs. T enterprises become materially interested, not in lowe ing losses from liquidation of fixed assets, but in incr ing them, not in preserving the means of labor and in their more efficient operation, but in writing them off quickly as possible. As a result we have instances of careless treatment of equipment, delayed repairs and cessive requests for new equipment.

The principle of self-support signifies that the incon of an enterprise covers all its expenditures, including those connected with the consumption of fixed assets. forcement of this principle strengthens the responsibi of enterprises for the condition of their fixed assets, a stimulates their material incentive to make the best u of their production capacities. As for the mechanism guaranteeing reimbursement for the value of consume fixed assets, the proposal to make the depreciation charges equal to the cost of the fixed assets, irrespec of the duration of the period over which the means of bor will actually be written off, deserves attention.

The stimulating role of such a system of depreciati charges will be especially felt in cases where the mea of labor continue to function after depreciation charge cease. The enterprises will incur no expenses connec with the wear and tear of the equipment, which will se as a gift of nature. The reduced production costs and creased profits resulting from this will make enterpr interested in preserving their implements of labor, ta better care of them, repairing them in good time, etc.

Depreciation charges are intended, by their econom nature, to compensate for the wear and tear of implements of labor by replacement or by major repairs. many enterprises the cost of major repairs is exaggerated by including in it the cost of maintenance, wh as maintenance costs should actually come from the o erating expenses of the enterprise. Financing maintenance from depreciation charges leads to artificial ering of production costs. Hence the necessity for st delineation between major and maintenance repairs.

Fixed assets are valued at their original cost. It is therefore held that cost accounting requires the reimbursement of fixed assets also at the original cost. I our opinion it would be more sound economically to r burse not the original but the replacement cost of the fixed assets, since the value of the implements of labo as of any other commodity, is determined by the soci necessary cost of reproduction under present conditi instead of the original cost of production.

Reimbursement by enterprises of the replacement of the consumed implements of labor will, in our opin make it possible to solve the problem of a quantitativ expression for obsolescence and will serve as an imp tant incentive to technical progress. The obsolescen the machines will in this case manifest itself in a gap ing formed between the original cost and the replacem cost. To prevent losses resulting therefrom, the ent prise will be forced to itensify the operation of the eq ment to a degree ensuring a closing of the gap betwe

e periods of physical wear and tear and obsolescence,
d hence, between original and replacement cost. Inten-
fication of the operation of equipment and the resulting
ortening of its period of service lead to an acceleration
the process of renewal of the old machinery.

Reimbursement of the replacement cost requires that a
cord be kept of the fixed assets according to the cost of
eir reproduction under present conditions. Of great im-
rtance in this respect is the revaluation of fixed assets
of January 1, 1960. In the future, when using for some
ars to come the assessment of fixed assets as of Janu-
y 1, 1960, the change in their replacement cost may, in
r opinion, be reckoned by using depreciation rates. Of
urse, a rational solution of this complex question re-
ires special research, perhaps even experimenting at
me individual plants.

It is also necessary to eliminate a number of other fac-
rs distorting the real costs of production at enterprises.
ius, in the extractive industries there are heavy expen-
tures on geological surveying and prospecting which are
nanced by the budget and are not reflected in production
sts.

The principal line to be followed in the development of
number of industries in the immediate future will be the
construction, extension and technical re-equipment of
e existing enterprises, renewal and modernization of
uipment. Under the Seven-Year Plan about 400,000 ma-
ine tools are to be modernized. With a 25% increase in
oductivity on the average, the economic effect of their
odernization is estimated at 10 billion rubles, against a
odernization cost of 2.8 billion rubles. A question of
ecial importance arising in this connection is that of
e sources of funds for the introduction of modern tech-
logy and the financial resources of enterprises.

Under the cost accounting system the cost of replace-
ent, reconstruction and modernization of equipment
ist be met primarily out of the profits of enterprises.
ink credits for the introduction of new technology are not
new source of financial resources for enterprises, but
present envisaged profits to be used to repay loans.

In recent years, in view of the growing technical recon-
ruction of industry, the amount of profits left at the dis-
sal of enterprises has increased. In 1959 alone this
crease amounted to 8 billion rubles. Credit from the
ate Bank of the USSR has been used chiefly to finance
oduction improvements unprovided for by the capital
vestment plans. While the loans issued by the State
ink for the introduction of new technology in recent
ars have grown, their absolute amount is far from
ough to meet the needs of the national economy. A sub-
antial increase of bank credit for this purpose can be
hieved by expanding the use of credit for measures en-
saged by the state plan. This, in turn, involves leaving
greater share of the profits at the disposal of enter-
ises. It is necessary at the same time to perfect the
stem of credit granted for introducing modern technolo-
: to increase the amount of loans, lengthen the repay-
ent periods, simplify the lending procedure, etc.

Of great importance in securing a high rate of develop-
ent of socialist industry is the smooth functioning of
terprises, with no idle time permitted and conditions
isting for the best utilization of manpower and equip-
ent. The 21st Congress of the CPSU stressed the need
rhythmic work at all enterprises, fulfillment and over-
fillment of state plans from day to day, from month to
onth, as regards all qualitative and quantitative indices.
e supply of working capital to enterprises is of great
importance in fulfilling this task. Lack of the necessary means to build up normal stocks of raw and other materials, stocks of unfinished goods, and monetary resources leads to interruptions in production, irregular operation and nonfulfillment of planned targets. An overabundance of means for these purposes dampens the incentive of the enterprise to increase income and improve production operations; it also leads to unproductive use of material and monetary resources. At a given volume of production, a 1% decrease of working capital in the national economy releases more than 5 billion rubles for other purposes.

In accordance with the self-support principle, the cost accounting enterprises cover the consumption of both fixed and working capital out of their incomes. Under normal conditions they retain their own resources and promptly repay loans from the State Bank of the USSR. A decrease in working capital testifies to losses by the enterprise and violation of the principle of self-support.

Under existing practice, industry's need for working capital of a relatively constant nature is covered by the state, and supplementary needs originating in the process of production are met by loans, mostly in the form of short-term bank credit. With this delineation of the sources of working capital, any reserves temporarily unused by one enterprise may be used to issue credit to other enterprises. This system releases for use by the state huge sums, which amounted in 1958 to 275 billion rubles. At the same time this creates conditions for day-to-day financial control, through the credit system, of the movement of material values and monetary resources at enterprises.

Up to now the bulk of short-term credit has been directed to the light and food industries, with the USSR State Bank taking little part in building up the working capital of heavy industry enterprises. As a result, financial control of the way in which heavy industry uses its working capital has not been sufficiently exercised by the State Bank. Under the new conditions of management in industry and construction the role of the State Bank in granting credit to heavy industry should become more effective.

In recent years the State Bank, in addition to issuing loans for building up seasonal production stocks, has begun to advance credit on the turnover of material values, sharing in the formation of working capital to the extent of 40%, 50% and, in some cases, even 60% of the norm. The positive significance of this method of advancing credit on the turnover consists in its reduction of the enterprises' need for working capital of their own and the broadening of opportunities for financial control of the work of heavy industry enterprises. So far, however, this form of credit has not assumed wide scope.

Planned control of the working capital of cost accounting enterprises is exercised by the state by fixing quotas of stocks of material values and monetary resources. Prior to the reorganization of management in industry and construction a very intricate system of calculation and approval of quotas of working capital existed which rendered it difficult to take into account the specific operating conditions of the various enterprises. This system has now been changed. To give the enterprises greater freedom for maneuvering with their own working capital and to simplify the methods of working out quotas, beginning with 1958 the economic councils have limited themselves to approving quotas only of the most important items: production stocks, unfinished products, and finished products. The enterprises have been given the right to fix, within the general limits, quotas for various types of material values and to dispose of surpluses of material values at their own discretion, to sell them to other enterprises, while seeing to it that they are used in the most rational manner. Further simplification of the system of quota-setting for working capital appears expedient. The situation, however, cannot be regarded as normal when planning is limited to establishing the need for resources required only to build up stocks in the production sphere, and therefore covers only about 3/4 of all the working capital in industry. The rest of working capital (exceeding more than 130 billion rubles) is not subjected to planning. In order to strengthen the control of the state over the work of the enterprises, the entire working capital should be planned.

At variance with the cost accounting system is the unjustified withdrawal of a part of working capital, which often creates financial difficulties for efficient enterprises and lowers their responsibility for the rational use of their material and monetary resources. In the interests of strengthening the cost accounting principle, this practice should be ended. This does not rule out, of course, the possibility of periodically redistributing working capital among the enterprises if some have too much of it and others too little. To improve the use of working capital, the role of other cost accounting incentives must also be increased: settlement of accounts between enterprises should be accelerated, forms of credit perfected, etc.

Reimbursement by enterprises of fixed and working capital consumed in the process of production serves as the principal form in which the dependence between the resources received by enterprises and the value of the product sold by them is realized. In addition to this, the cost accounting system possesses a number of other forms of material encouragement of higher efficiency on the part of enterprises at the expense of part of the surplus product or appropriate distribution of the necessary product. The directive of the 21st Congress of the CPSU calling for consistent implementation of the principle of material incentive demands that the forms of incentive offered to the workers of cost accounting enterprises should be perfected.

Part of the surplus product left at the disposal of enterprises goes to increase the workers' personal consumption fund (grants, bonuses, free accommodation at rest homes and sanatoria). In establishing the amount of money to be allotted to enterprises as a whole for these purposes and the amount of bonuses to be paid out to individual workers, it is necessary not only to take into account the significance of material encouragement in the cost accounting system, but also the socialist principle of distribution: the bulk of the income of factory and office workers should consist of wages paid in accordance with the quantity and quality of the work performed.

An important part in strengthening the cost accounting system will be played by the measures taken in accordance with the decision of the Central Committee of the CPSU and the USSR Council of Ministers of July 2, 1959, on readjusting the methods of paying bonuses to managerial, engineering and technical personnel and office employees in the Soviet national economy. The highly cumbersome and intricate bonus system, which had been developed over many years, has now been abolished, excesses in the payment of bonuses are being eliminated, and a direct relation between the amount of the bonus and the saving effected by the reduction of production costs is being established. The Central Committee of the C and the USSR Council of Ministers have resolved that bonuses to workers of industrial enterprises shall be principally for fulfilling and overfulfilling the cost rec tion plan, on condition of fulfillment of the production plan in the fixed assortment, the labor productivity pl the targets for the delivery of goods to enterprises of other economic areas, coordinated deliveries, and deliveries for general state needs. The new bonus syst will be instrumental in rallying the efforts of enterpr to strive for fuller use of latent production reserves improved quality of work.

An important form of material encouragement unde conditions of the comprehensive building of communi is the allotment by the enterprise of funds for collect needs: the building of cultural and public service est lishments, housing, improvement of public catering, c dren's education and upbringing, etc. In our opinion, ratio between the sums allotted for the collective nee of enterprises and for individual bonuses should be changed so that the bonus system should increasingly mote communist forms of satisfying the needs of the working people.

One of the main sources of bonuses to workers is t enterprise fund. As this fund is small in comparison with the wage fund (about 1% of the latter as a rule), i provides a weak incentive. To make enterprises mor interested in the results of their work, the enterprise fund should be increased. Under the existing system part of the enterprise fund is used to finance the intro tion of modern technology, to modernize existing equi ment and to expand production. It would appear to be more advisable to use the entire fund as a means of m terial incentive for the personnel of the enterprise by building houses, improving the cultural and public se facilities, paying bonuses to individual workers, etc.

The interests of expanding socialist production dict a further strengthening of the connection between eve form of material incentive and technical progress, in provement of production technique and technology. O considerable importance in this respect is the metho which the rate of profit of cost accounting enterprise determined. The method under which the rate of prof is determined now as the ratio of the profit to the ent cost of realized production suffers from the fact that there is no direct dependence between the size of the profit, the condition of the capital employed in produc and the degree to which it is utilized. As has already been pointed out in our press, it is time to introduce index linking the amount of the profit with the efficie with which the capital is being used. This index migh the rate of profit defined as the ratio of profit to the tal employed in production.

In the nationwide struggle to achieve economies, a important part is played by material incentives to the intra-plant links of enterprises, those which are not a self-supporting basis — the shops, sections, teams etc. — making it possible to draw all the personnel o enterprise into the struggle for efficient management Experience gained in organizing cost accounting in th various links of enterprises shows that for the purpo of material encouragement it is wise to use some pa the savings resulting from higher labor productivity, proved quality of production and reduced expenditure materials per unit of output. A condition for materi encouragement of intra-plant links should be such an ganization of technical rate-setting as would ensure

nuses for improved operations. A precise and effi-
ent account must be kept of the working time and mate-
al values expended at the various phases of the produc-
on process. The difficulties of such accounting, which
eemed insuperable some years ago, can now be over-
me by extensive mechanization of accounting operations.

The shift to long-range planning, the abolition of the
stem under which annual national economic plans were
rked out and approved as if they were made anew,
eate conditions for the further development of the cost
counting principle. It becomes possible to work out
able norms of material rewards for enterprise person-
l for improved operations. Valuable experience in work-
g out such norms has been gained in the Czechoslovak
epublic. Material rewards depending on the fulfillment
stable norms will help enterprises to uncover potential-
ies for expansion of production and possibilities for
ality improvement; they will raise the level of current
anning and act as effective stimuli towards successful ful-
llment of the long-range plan. With durable and stable
otas in operation the enterprises will be materially inter-
sted in above-plan measures to raise the technical level of
oduction, as the resulting qualitative improvements will
ad to the enhancement of their financial resources and
additional rewards.

The 21st Congress of the CPSU stressed the need for
rther strengthening democratic centralism in econom-
management, ensuring a proper combination of cen-
alized guidance of communist construction and the ut-
ost development of the creative activity and initiative
the working masses. As a socialist method of manage-
ent, the cost accounting system requires a properly
mbined administrative and economic independence of
terprises and centralized guidance by the state. Op-
sing the interests of the individual enterprises to those
society as a whole, a local* approach to the development of production is totally incompatible with the nature of a socialist economy. Development of the cost accounting principle presupposes a broadening of the degree of independence enjoyed by enterprises with a simultaneous strengthening of the role of the economic levers keeping this independence within fixed limits, and directing the creative activity of enterprises towards the solution of problems facing socialist industry as a whole.

In guiding cost accounting enterprises the socialist state resorts to a specific form of control of their work — financial control exercised by the financial authorities and consisting in the regulation of the monetary resources of enterprises in accordance with the requirements of the cost accounting system. Extension of the enterprises' administrative and economic independence presupposes strengthened financial control over their work, and consolidation to this end of the economic relations between the financial organs and the enterprises in regard to deductions of part of their profits into the budget, financing capital investments from the budget, and replenishing the working capital. Under existing conditions these relations are inadequate. In many cases the payments into the budget and the sums financed by the budget are small, which makes financial control difficult to achieve. One of the measures strengthening the connections between enterprises and the budget might be the adoption of a policy of payment of the turnover tax directly by the industrial enterprises. This would enable the financial organs to systematically control the creation of the entire product for society, and through this, all the revenues and expenditures of the enterprises.

Implementation of measures promoting the cost accounting system and strengthening the economic incentives for the growth and improvement of socialist production will help to successfully fulfill the Seven-Year Plan, the plan of the comprehensive building of communism.

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mestnicheskii — editor's note.

Sotsialisticheskii Trud, No. 1, 1960

E. Gershanov and V. Skobelkin:

Labor Disputes Commissions at Enterprises and Institutions

The regulations covering the procedure for reviewing labor disputes, as approved by the Decree of the Presidium of the Supreme Soviet of the USSR of January 31, 1957, introduced important changes in the former procedure and created conditions for the settlement of disputes directly at the enterprises and institutions. At the same time they made it possible to draw a large number of active trade union members into this important work.

The Labor Disputes Commission (1) is the primary organ that considers most of the labor disputes arising between the worker and the management.

The Organization of the Commission

The LDC consists of equal numbers of permanent representatives of the trade union committee of the factory or institution (hereafter designated as FITUC — editor) and of the management of the respective enterprise, institution or organization. If there is no factory or institution trade union committee, the trade union organizer and the head of the given enterprise, institution or organization become members of the LDC.

Besides the general factory commissions, shop LDC's may be organized in the shops and other production departments of the enterprises where there are shop trade union committees. The question of the organization of shop committees is decided when necessary by agreement between the FITUC and the management of the enterprise.

The number of representatives of each side, that is, of the management and the FITUC, is established by agreement between the two sides. It is advisable to appoint several representatives of each side so that should one or another representative be absent, the normal work of the commission is not interrupted.

The representatives of the two sides are appointed to the LDC for the period of the trade union committee's term of office. After new committee elections are held, representatives must be appointed anew: representatives of the FITUC by decision of the committee, and representatives of the management by an order of the head of the enterprise. (2)

Sometimes commissions are created with certain deviations from the general rule, as when the local trade union committees unite trade union members of several independent organizations. In rural localities it often happens that the local trade union committee at the district hospital also unites the trade union members of the district department of public health, children's nurseries, etc. In some districts one local trade union committee may unite the workers of the courts, the prosecutor's office, the district department of the militia, and the district military registration and enlistment office. In such cases the management representatives who are to consider the dispute are appointed by the head of the organization in which the worker who has submitted the complaint is employed.

As a general rule the LDC is organized directly at the enterprise and consists of representatives of the management and the FITUC of the given enterprise. Hence the practice of creating a commission of representatives of higher economic organs and the so-called joint trade unio committees cannot be recognized as correct. Such commissions are formed at certain building trusts, dining-room trusts, etc. Furthermore, it happens that after a dispute is considered by the LDC of the enterprise, for e ample, by the management of the Chief of Work of the building trust, the worker, dissatisfied with the decision of the commission, must appeal to the trust's LDC, which is frequently tens and even hundreds of kilometers away, and then to the joint building trade union committee. The local trade union committee is thus deprived of its right t examine labor disputes, which is in manifest contradictio to the Regulations Governing the Rights of the FITUC. In these cases, therefore, labor disputes must be considere directly at the enterprise.

The Rights of the Commission

The LDC has the right to consider labor disputes that may arise between the worker and the management and which are connected with the application of labor legislation, collective and labor agreements, factory or plant work rules, and also disputes connected with the application of labor conditions established by the management in agreement with the FITUC.

Labor disputes arising as a result of orders issued by the management of a higher institution or enterprise, ar considered by the LDC on the usual basis. For instance, if the manager of a trust has imposed a penalty upon an engineer of an enterprise, this worker has the right to complain to the LDC of the enterprise in which he works If the LDC decides that the penalty was unjustly imposed it has the right to pass a decision annulling it.

Disputes that arise between the FITUC and the management do not come within the jurisdiction of the LDC. Neither can the Commission consider disputes between a worker and the management that may arise in connection with the establishment of new working conditions or changes that have already been made by agreement between the management and the trade union committee. For instance, suppose a worker appeals to the Commission with the demand to establish a new work quota or to change the size of the bonus established by the administ tion in accordance with the Regulations Governing the Rights of the FITUC and by agreement with the factory trade union committee. The LDC does not have the righ to consider such a dispute.

In cases when the FITUC agreed to the discharge of a wor the labor dispute must be submitted for direct consideratio court. If the discharge was effected on the initiative of the m agement and without agreement with the FITUC, existing le islation gives the worker the right to appeal to the LDC with request to have himself restored to his work.

According to clause No. 11 of the Regulations Govern- g the Procedure for Considering Labor Disputes, the llowing questions do not come within the jurisdiction of e LDC:

1. discharge from work (including questions concern- g a change in the wording of the reasons for the dis- arge), restoration to one's post, the transfer to other rk of workers occupying positions indicated in a spe- al list (Supplement No. 1 to the Regulations Governing e Procedure for Considering Labor Disputes), and the posing of disciplinary penalties on them;
2. the imposing of disciplinary penalties on people who me within the sphere of action of the regulations on scipline. These regulations are in effect in railway and arine transportation, in the civil air fleet, at communi- tions enterprises and organizations, etc.;
3. the establishment of salaries and rates of pay; the mmission cannot consider only those questions which e connected with the establishment of salaries and rates pay. If, however, a salary has been fixed by the staff hedule, and the management has paid the worker less an the established amount, the Commission has the ght to pass a decision demanding the payment of the un- id sums, which decision is retroactive;
4. changes in the staff;
5. calculation of the length of service for the assign- ent of state social insurance allowances and pensions, e size of these allowances and pensions, calculation of ngth of service for the granting of preferences and ad- ntages established by existing legislation;
6. the granting and distribution of housing, as well as e satisfaction of the everyday needs of the workers.

According to an AUCCTU (All-Union Central Council of ade Unions) interpretation, disputes of administrative rkers (directors, their deputies, chief engineers, head okkeepers, heads of planning departments, heads of the partment of Quality Control, and others) on questions bonuses which are confirmed for payment in accord- ce with existing regulations by the heads of the superior onomic organizations, are considered in the order of eir subordination by the heads of the superior economic ganizations, and not by the LDC. On all other ques- ns (such as payment for work on holidays, the granting vacations, etc.), these workers can appeal to the LDC the usual basis.

Furthermore, the LDC does not have the right to con- der disputes connected with the discharge of a worker the demand of the trade union in accordance with use No. 49 of the Code of Labor Laws of the RSFSR. e right to make such a demand is granted to the trade ion organization at no lower than the district level.

The LDC does not have the right to settle disputes con- rning the annulment of a labor agreement on the initia- e of the worker, if this agreement was concluded for indefinite period, inasmuch as existing legislation es the worker the right to leave his work, that is, to nul the labor agreement, after the expiration of his pe- od of notice. But if a worker who has been released h the wording "at his own desire," disputes the lawful- ss of his discharge, he can appeal to the LDC with the quest to be restored to his work.

There are many questions which come within the juris- tion of the LDC. The Commission has the right, for tance, to consider disputes concerning changes in the ries in the service record of a worker, not only re- rding changes in the wording of the reasons for his dis- arge, but also as regards those entries which show when he was taken on, transferred, and what rewards the respective worker or employee received. For instance, if the service record of the worker contains a wrong entry made several years ago, to the effect that he was transferred to the job of fitter whereas he actually began working as an electric welder, the LDC has the right to pass a decision requesting that this entry be changed accordingly. It should be borne in mind, however, that the decision must be based exclusively on documentary data of the time when the original entry was made (orders, memoranda regarding his being hired or transferred, paybooks, etc.). The evidence of witnesses, who may be workers of the enterprises, including the director or superintendent, etc., is not taken into consideration.

The shop LDC functions on the same basis as the Commission for the whole plant. Only disputes concerning the transfer to work outside of the given shop or discharges because of a reduction in the staff are not considered by the shop Commissions. It therefore follows that if a labor dispute arose in connection with an order of the director of the plant (for example, depriving a worker of his bonus), the worker who disputes the correctness of that order can appeal to his shop LDC.

Only workers and employees have the right to appeal to the Commission with the request to settle a labor dispute. There is only one case in which the management is granted this right. According to clause 83^2 of the Code of Labor Laws of the RSFSR (edition of January 31, 1958), if it is necessary to compensate for material loss caused by the worker of an enterprise, according to clause 83 of the Code of Labor Laws, the management does not make any deduction from the worker's wages if the latter declares his protest against such deduction within seven days after the issuance of the instructions and submits the question of such deduction for settlement by the Commission on Labor Disputes. A 14-day period has been established, counting from the day on which the worker submits his protests, during which the management can appeal to the LDC on questions concerning a deduction from wages.

It should be noted that the management can appeal to the Commission when the question concerns the compensation for damages, to be made by a worker employed at the given enterprise. If, however, the worker has already been discharged by the time the management appeals to the LDC, the latter should not consider the complaint inasmuch as compensation for the damages incurred is made by the management deducting the corresponding amount from the worker's wages. Since the worker is no longer employed at the enterprise, the management cannot avail itself of its right to make this deduction.

How the Commission Works

The FITUC receives the complaints addressed to the LDC. If there is no FITUC, the complaints are submitted to the trade union organizer. Neither the chairman of the committee nor any of its members has the right to refuse to accept a complaint addressed to the Commission. Even in those cases in which the dispute does not come within the jurisdiction of the Commission, the complaint must be accepted and turned over by the trade union committee chairman to the LDC for its consideration. The Commission, when meeting, must consider the complaint and if necessary refuse to review the question referred to as being beyond its jurisdiction. Such a decision on the part of the LDC can be appealed to the FITUC.

Workers and employees who are not members of the trade union may appeal to the Commission on the usual basis.

The Regulations Governing the Procedure for Considering Labor Disputes do not establish any time limit when such appeals to the LDC can be made. However, when considering disputes connected with questions of monetary demands, the Commission has the right to pass a decision requiring that the worker be paid the amounts due him for the time preceding the submission of his complaint, but for not more than three months, and as regards the question of compensation for unused vacation — for not more than the two preceding years of work (for people working in the Far North and other distant places — for not more than the preceding three years of work).

A labor dispute is considered in the presence of the worker concerned. It can be considered in his absence only upon his written request to that effect. If the worker does not appear at the meeting at which the dispute is to be considered, the matter is postponed. Should the worker fail to appear a second time without any plausible reason, the LDC has the right to close the matter, but this does not deprive the worker of the right to appeal to the Commission again on the same question.

All who wish to do so may attend the meeting of the Commission both when the dispute is being discussed as well as when the commission announces its decision. At the beginning of the session of the LDC the worker concerned has the right to make a motivated objection to the participation of any member of the Commission in the consideration of the dispute. Grounds for such an objection may be the personal interest of the member of the LDC in the outcome of the case, or the existence of unfriendly relations between that member and the worker who has submitted the complaint, which fact may influence the objectivity of the LDC member when considering the dispute. The question of satisfying this objection is decided by the head of the enterprise or shop if it concerns a representative of the management, and by the trade union committee if it concerns representatives of the trade union.

In actual practice the question has come up of how the head of an enterprise or shop should consider an objection to himself as a member of the LDC. In such cases the question of satisfying the objection should be decided by the head of the given enterprise or shop.

Decisions in the LDC are taken only by agreement between the representatives of the management and of the trade union committee. If there is no unanimous opinion among the representatives of one side and the attempt to come to an agreement proves futile, it is recorded in the protocol that no agreement has been reached.

Inasmuch as clause No. 19 of the Regulations Governing the Procedure for Considering Labor Disputes provides that decisions of the LDC must be based on the existing labor legislation, the representatives of the two sides, and, in particular, the representatives of the management have the right to express their opinion at the meeting even though it is in contradiction to the opinion of the side they represent. The director of an enterprise does not have the right to impose a disciplinary penalty on his representative in the LDC if the latter agrees to the acceptance of a decision with which the director, for one reason or another, does not agree.

When disputes involving monetary demands are considered, the decision must show exactly what amount is to be paid out. If it does not do so, the decision cannot be carried out in a compulsory manner. If the amount is not indicated immediately, the LDC has the right to define decision more precisely and to make the appropriate amendment to it.

Procedure for Appealing and Fulfilling the Decisions of the Commission

If no agreement has been reached by the LDC, or if a worker is not satisfied with the Commission's decision he can appeal to the FITUC with the request to have the dispute reviewed or with a complaint about the Commission's decision. This must be done within a period of 1 days, counting from the day he receives an extract fro the minutes of the LDC meeting. If the dispute was considered by the shop LDC, the worker appeals to the all-factory LDC. If the labor dispute was considered by a Commission consisting of the trade union organizer an head of the enterprise, the worker can appeal directly t the court.

Only the FITUC has the right to annul the decision of the all-factory LDC. The higher trade union committe do not enjoy this right. Should a higher committee pas resolution annulling the decision of the LDC, that resol tion does not have any juridical validity and cannot affe the executive power of the Commission's decision. Th LDC decisions are obligatory and do not require any ra fication whatsoever. If a decision has not been appeale by the worker, it must be carried out. The Commissio does not have the right to reconsider its own decisions.

If no time limit has been set in the decision, the management must carry out the decision of the LDC within period of 10 days. The regulations grant the Commissions the right to set the time within which their decisions must be carried out. Inasmuch as there are no reservations concerning the length of this period, it follows that the LDC can set a time limit of less than 10 days and can even decide on the immediate fulfillment its decisions.

In order to ensure the timely fulfillment of the Commission's decisions and the resolutions of the FITUC o disputes concerning the restoration of unlawfully discharged or transferred workers, it has been establishe that in cases of delay in fulfilling such decisions and re lutions, the worker must be paid his wages for the entir period that he is forced to be idle. In the case of a wor er who has been incorrectly transferred, the difference in wages must be paid for the entire period from the ti the decision was passed until the worker's actual resto tion to his work.

The Regulations Governing the Procedure for Considering Labor Disputes provide for the obligatory fulfillment of the decisions of the Commission if the management does not do so voluntarily. An order for the oblig tory fulfillment of the LDC decision, which has the pow of a court order, is issued by the chairman of the FITU or his assistant on the basis of a decision of the FITUC

When considering the application of a worker for an order for the obligatory fulfillment of the decision of th LDC, the FITUC must check up on the lawfulness of th Commission's decision. If the FITUC comes to the co clusion that the LDC decision is incorrect and contradicts existing legislation, the order is not issued. In th case, the FITUC must pass a resolution annulling the d cision of the Commission. If the worker does not agre with the decision of the FITUC he can appeal to the people's court for settlement of the labor dispute.

(Continued on Page 50)

Sotsialisticheskii Trud, No. 1, 1960

Acharkan and M. Lantsev:

e Law on State Pensions and Some Questions of e Development of Pension Security

the period of the comprehensive construction of com- ism the individual needs of the working people must atisfied not only by a rise in wages based on the la- contribution of each to social production, but also ough the social funds, whose role and importance are wing. An ever increasing part of the material and cul- l benefits is being distributed among the members of socialist society regardless of the quantity and quality eir work. Tremendous sums are spent in our country he free education of our citizens, on free medical e, pension security, grants to large families, library vices, etc. Money grants and payments to be received he population this year from state funds and the funds nterprises will amount to 244 billion rubles, and in 5 they will exceed 360 billion rubles. A considerable of these funds are and will be spent on pension secur- Whereas in 1950 pensions constituted only 19.7% of total amount of money distributed as grants and allow- es, in 1958 they amounted to over 29% of these funds. Most of the people who receive state pensions enjoy this right on the basis of the Law on State Pensions.

The Law on State Pensions, which was drawn up in accordance with the decisions of the 20th Congress of the CPSU, was a most important legislative act and was interpreted by the Soviet people as new evidence of the concern of the Communist Party and the Soviet government for their material well-being. The system of state pension security has been radically improved. The level of the material security of pensioners was greatly raised, and the number of categories of people having the right to a state pension was increased. Pension security in the Soviet Union, as N. S. Khrushchev pointed out in his report at the 21st Congress, is much better organized than in any capitalist country.

The three-year period during which the new Law on State Pensions has been in effect is characterized by the following data:

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	Years			
	1955	1957	1958	1959
Number of pensioners receiving pensions through the social security organs at the beginning of the year (in millions of people)	13.4	14.5	15.7	16.1
Of this number — old age pensioners	1.6	2.7	3.5	4.0
Expenditures for the payment of pensions (in billions of rubles)	29.2	57.8	63.4	65.0 (planned)
Average size of the assigned pension in percent of 1955	100	181	190	195
Of this amount — old age pensions	100	207	210	211

e increase in the number of pensioners in recent s is due to the fact that the Law on State Pensions ted the right to a pension to a number of categories of king people who formerly did not have this right (pen- s granted even though a person may not have worked equired number of years, the limiting dates within h one could apply for a pension were removed, the gories of people having the right to a pension were ex- ed and others). Then, too, there was a greater natural ease in the number of pensioners beginning with the 1954. Whereas in the period from 1950 to 1953 the al increase in the number of pensioners from among ers and employees amounted to approximately 4-6%, e period from 1954 to 1957 it rose to 10-16%. The d rise in the number of pensioners in recent years is explained by the retirement on old age pensions of those workers and employees who had begun working in industry and construction during the years of the first five-year plans, years when there was a very rapid rise in the number of workers and employees engaged in the national economy of the USSR. The annual increase in the number of workers and employees in 1927-1929 was within the limits of 600,000 to 1 million people, whereas in 1930 it amounted to 3 million people, in 1931 — 4 million, and in 1932 — over 4.5 million people. This led to an increase in the number of workers and employees who retired on pension security in 1954-1957, as compared with the preceding years, independently of the increase in the number of categories of people enjoying the right to a pension under the Law on State Pensions.

The Law on State Pensions provided for a considerable increase in the size of pensions of all kinds. After the new law went into effect the average old-age pension increased more than two-fold, and the invalid pension and the pension for the loss of the bread-winner — more than 50%. In this connection it should be noted that the increase in the smaller pensions was considerably greater. A number of pensioners had their pensions raised three-fold and four-fold after the introduction of the new Law. At the same time, excesses in pension security were stopped and maximum pensions were established.

Pension legislation was greatly simplified. It is sufficient to point out that with the introduction of the new pension law and the government decisions that were published in the course of its development, about 900 all-Union decrees lost their validity either completely or partially.

The practical application of the Law on State Pensions during these three years has confirmed the correctness of its basic principles. However, during the course of its application it became necessary to define certain points more specifically in order to further improve the pension system. The aim of these improvements was to create more favorable conditions for the payment of old-age pensions to pensioners who are members of collective farms; the rights of working pensioners to have their pensions recalculated on a more favorable basis were extended; the size of pensions to invalids suffering from various occupational diseases was increased, etc.

A decree of the Presidium of the Supreme Soviet of the USSR, dated June 26, 1959, improved pension security for workers and employees who became invalids as a result of pneumonoconiosis (silicosis, anthraci-silicosis, anthracosis, sidero-silicosis, and others). In these cases the invalid pensions are assigned as follows: first-group invalids receive 100% of their earnings; second-group invalids — 90%; third-group invalids — 65% of their earnings. The maximum pension for first-group invalids is 1,200 rubles a month; for the second group — 900 rubles, and for the third group — 700 rubles. (1)

By decree of the Presidium of the Supreme Soviet of the USSR of December 26, 1959, all first-group invalids who were rank-and-file soldiers, sergeants, or sergeant-majors in the regular service, have the right to receive a 15% increase for necessary care. Second-group invalids of this category have been granted a 10% increase (within the limits of the maximum pension) if they do not work. Second- and third-group invalids who are workers or employees and earn more than 1,200 rubles a month are paid their pensions in such an amount that their earnings plus their pension do not exceed the amount they earned before their pension was assigned them.

The entire pension system in the country is being adjusted on the basis of the Law on State Pensions. For instance, the application of this law showed that in some cases army officers were receiving pensions smaller than they should have received under it. This situation was corrected by a Decree of the Council of Ministers of the USSR dated January 2, 1957. The pension security of writers, composers, fine arts workers and the members of their families has been considerably improved. By a decree of the Council of Ministers of the USSR dated August 7, 1957, the Regulations on the Manner of Assigning and Paying State Pensions, which govern the pension security of workers and office employees, were made applicable to members of creative unions, such as the Union of Writers of the USSR, the Union of Artists of the USSR, and the Union of Composers of the USSR. (2)

Personal pensions are granted to people who have rendered special service to the Soviet State in the fie of revolutionary, state, social and economic activity c outstanding service in the field of culture, science an technique; in case of their death, such pensions are a signed to the members of their families. The new Re lations on Personal Pensions were confirmed by the Council of Ministers of the USSR on November 14, 19 (3)

The Law on State Pensions could not solve the problems of pension security for all categories of worker The specific working conditions of various categories workers demand a special approach when their right pension is being determined. Such workers include fl personnel, certain categories of actors, etc. The pen regulations covering these workers are based on the ciples of the Law on State Pensions, with the specific tures of their work being taken into consideration.

Pensions for a long service record are paid to cert categories of theatre actors and members of other th atrical enterprises depending on the profession and n ture of the actors' work. (4) The specific features o actors' profession and the conditions of their work or stage do not permit actors of certain categories to co tinue working until the time when they are entitled to age pensions on the usual basis. Ballet artists, acrob rope-walkers, and others who have worked on the sta for 20 years are not in a condition to continue their theater activity, inasmuch as they lose their professio skills. When such performers continued with the trou of the theatrical enterprise, it had a negative effect u the creative work of the company, retarded the devel ment of art, and prevented the growth of the young ac

The new pension system for flying personnel is bas on uniform pensions and terms governing their assig ment to the workers regardless of the department to which the enterprises, institutions and organizations which they work, belong. New specialties of the flyin staff (aerology, aerogeophysics, etc.) have been inclu in the list of occupations having the right to a pensio The number of flying hours on the basis of which the length of service is reckoned has been somewhat increased.

Beginning with the current year a new system was stituted for the assignment and payment of pensions f length of service to workers in the field of education, public health, and agriculture. The maximum pensio has been set at 1,200 rubles and the minimum for tho who do not work — at 300 rubles a month. Pensioner who continue to work receive their pension in full if pension plus their earnings do not exceed 2,000 rubl month. If the total sum exceeds this amount, the pen is correspondingly lowered. The basis for calculatin length of service in the specialty, for educational an public health workers, has been adjusted and the categories of people having the right to this pension have been defined precisely.

The further improvement in the pension system ev dences the constant concern of the Party and the sta for the welfare of the Soviet people.

After the Law on State Pensions went into effect, a well as the Regulations on the Assignment and Paym of State Pensions, and after the issuance of the Spec Lists of industries, plant shops, trades and positions work which carries the right to a pension on pref tial terms and in preferential amounts, the State Co tee of the Council of Ministers of the USSR on Quest of Labor and Wages, (5) the All-Union Central Counc

ade Unions and other central organs began receiving
uiries from ministries and departments concerning the
plication of the new pension legislation. Different in-
pretations of the various standards were noted in the
ictical implementation of the all-union legislation by
republic Ministries of Social Security. In this con-
tion, the USSR Council of Ministers instructed the
te Committee to give the ministries and departments
necessary interpretations in accordance with the
gulations of the Committee regarding the application of
above-mentioned Law, Regulations and Lists.

After studying the work of the Ministries of Social Se-
rity of the Union Republics, the inquiries received from
ministries and departments, and the letters of indi-
ual citizens, the State Committee gave interpretations
all questions concerning pension security which re-
red solution on al all-Union scale. One uniform all-
ion law should be identically applied in all the Union
publics; the interpretations of the Committee are meant
ensure the uniform application of the state pension leg-
ation over the entire territory of the USSR, lack of co-
lination as regards the basic questions of pension se-
rity in the various Union republics not being permitted.

By its interpretations of the application of the Regula-
ns on the Assignment and Payment of State Pensions
l the Lists, the State Committee carries out the state
gulation of pension security. The procedure estab-
hed by the government of having the Committee give in-
pretations does not exclude independent activity on the
t of the Ministries of Social Security of the Union Re-
blics regarding the application of the Law on State Pen-
ns and the Regulations on the Assignment and Payment
State Pensions. The Ministries of Social Security of
Union Republics must themselves carry out the pen-
n security provisions within the limits of the present
islation. Therefore, inquiries as to how one must in-
pret "the source of means of existence," and whether
or another particular work is to be considered as
rk done in accordance with a labor agreement or work
accordance with civil-legal agreements, etc., were
t to the republics to be decided by them.

The conditions governing the formation and develop-
nt of one or another republic determined the character
the inquiries. For instance, in the Ukrainian SSR, the
elorussian SSR, and the Baltic republics during the
st stages of the application of the Law, urgent ques-
ns came up in connection with how one was to calculate
length of service for the period when the people con-
rned lived on territory temporarily occupied by the
emy. The Committee issued an interpretation of
use 114 of the Regulations on the Assignment and Pay-
nt of State Pensions: "On including in the length of
vice for the assignment of pensions the time spent on
emy-occupied territory of the USSR, if the work before
occupation is confirmed by the evidence of witnesses
is to be considered as involving employment as a
ker or employee before the temporary occupation"
erpretation No. 2 of January 10, 1957, and No. 18 of
y 20, 1957).

An analysis of the inquiries of the Ministries of Social
urity and other departments, as well as the letters of
ividual citizens shows that the chief difficulties that
se in the application of the Law were connected not
h the interpretation of the rules of the Law itself and
Regulations, but with proving one's right to a pension
an increase to it, with determining the size of the
sion, that is, with questions connected with establishing the length of service and earnings, documents for which were not preserved as a result of the circumstances existing during the war.

In order to regulate the establishment of one's service record on the basis of witnesses' evidence, the State Committee issued two interpretations to clause 118 of the Regulations on the Assignment and Payment of State Pensions: "On witnesses' evidence for the calculation of one's service record for the assignment of pensions and additions thereto," and "On the method of establishing the length of service on the basis of witnesses' evidence for the assignment of state pensions" (interpretations of the Committee dated January 11, 1957, No. 3, and June 4, 1958, No. 10). These interpretations made it possible to adjust the establishment of the service record on the basis of witnesses' evidence.

However, questions concerning the establishment of one's length of service on the basis of witnesses' evidence continue to be extremely urgent, especially in the Baltic republics, which can be explained by the specific conditions of the economy of these republics in the period prior to the establishment of Soviet power. For instance, in Lithuania 75-80% of the population was engaged in agriculture before the establishment of Soviet power. According to 1940 data, over 88% of all hired farm hands worked on kulak farms. In industry and trade most of the enterprises employed one or a few wage workers. As a rule, such workers were not given any documents certifying to their work. About 12% of the agricultural workers were employed on large estates. There were only 120 industrial enterprises which employed more than 50 workers. Furthermore, the entire territory of the republic was occupied by the enemy. Workbooks (service records) were introduced in the republic only in 1947-1948. Hence the question of former hired farmhands and people who had worked at small private enterprises establishing their record of work on the basis of witnesses' evidence remained an especially urgent one in the Baltic Republics.

In order to settle this question the Committee issued a special interpretation: "On the system of establishing the lacking service record necessary for the assignment of pensions to former hired farm hands and persons who had worked at small enterprises" (No. 23, July 3, 1959).

Many questions arise in the application of the Lists giving one the right to preferential pension security. At present, about 9% of all pensioners receive pensions on preferential terms and in preferential amounts. During the compilation of the Lists which give one the right to preferential pension security, trades and positions that now exist were included. However, at some enterprises these trades had old or local names. The establishment of the comparability of the old and new names was effected by interpretations of the Committee after it had made a painstaking study of the nature of the work and its conditions. There were 17 interpretations issued on these questions, covering over 1,000 different designations of trades.

When issuing its interpretations the State Committee is governed by practices established in the republics in connection with the application of the pension legislation. For instance, an interpretation was issued on the payment of pensions for less than a whole month (clause No. 163 of the Regulations on the Assignment and Payment of State Pensions). After studying the pension practice of the USSR and the Ukrainian SSR, the Committee issued an interpretation on the payment of old-age and 3rd group invalid pensions to temporary workers and employees. In order to ensure strict adherence to the rules of the Law on State Pensions as regards the payment of pensions to a person receiving wages, it has been established by this interpretation that when old age or 3rd group invalid pensions are paid the wages earned by a temporary worker or employee are not taken into consideration if the pensioner was employed in such work for not more than two months of the calendar year, regardless of whether he worked two months in succession or with an interval of time between them. A precise interpretation of clause 173 of the Regulations on the Assignment and Payment of State Pensions was necessary because the heads of enterprises and institutions, in order to fulfill work that required much time, permitted the employment of pensioners for temporary work for a period of two months several times a year, which, in essence, was equivalent to evading the rules of the Law on State Pensions regarding the payment of pensions to working pensioners.

Interpretation No. 10, dated June 4, 1958, of the State Committee, confirms the practice of the Ministries of Social Security of the RSFSR, the Byelorussian SSR, and several others, who established a ruling according to which one of the witnesses, who knows the applicant from working with him in a given enterprise or institution or within a given system, must confirm the fact of their joint work by a respective document.

However, in spite of a number of interpretations of the committee on the uniform application of the all-Union pension legislation, there are still cases in the Union Republics when the individual rules of the Regulations on the Assignment and Payment of State Pensions, the Special Lists of industries, plant shops, trades and positions, work which carries the right to a state pension on preferential terms and in preferential amounts, are interpreted in different ways. There are still instances when the right to a pension and its size depends on the Union Republic in which it is assigned. When a pensioner moves from one republic to another his right to a pension is reconsidered, as a result of which the size of the pension is sometimes changed or its payment is stopped entirely. Such a situation cannot be considered normal. More work must be done to ensure uniform practice in the application of all-Union pension legislation.

After the Law on State Pensions went into effect, the Councils of Ministers of the Union Republics passed a number of measures on questions of pension security. Governed by the conditions and standards of pension security under the Law on State Pensions, and with due regard for the specific features of the rights of people working in producers' cooperatives as members of the artels, the Councils of Ministers of the Union Republics established pension regulations based on cooperative insurance. The Councils of Ministers of the Union Republics also passed decisions on state security for citizens who do not receive state pensions. On the basis of the same standards, the Councils of Ministers of the Union Republics establish the material security of aged people and invalids who are former members of collective farms whose land was turned over to state farms and other enterprises and organizations.

The important measures taken by the Party and the Government to advance agriculture have made it possible to decidedly strengthen the economy of the collective farms. In 1958 collective farms and farmers received 103.3 billion rubles more for their agricultural products than they did in 1952. The real incomes of the collective farmers (per working farmer) increased by 44% in the
period 1953-1958. All of these factors created the bas
for the further development of all forms of social secu
at collective farms. The number of collective farms
which have established permanent pensions for their
members in old age, in case of invalidism, and in case
the loss of the bread-winner, has increased. The amo
of the pensions have also been raised. However, a stu
of the application of the pension system at a number of
collective farms in certain Union Republics shows that
there is still much to be done in this field.

At present, questions of pension security for membe
of collective farms are regulated on the basis of the
Model Charter of the Agricultural Artel, dating back t
1935, and the Model Charter of the Fishing Artel, dati
back to 1939, as well as the model charters of mutual
funds, ratified by the Councils of Ministers of the Unio
Republics. The collective farms do not have uniform
types and standards of pension security. The collectiv
farm itself determines the size of the pension, the pro
cedure for its assignment and payment, and other term
Usually the size of the pension depends on the number
workdays the applicant for a pension has earned in the
3-5 years preceding his retirement on a pension, and
the length of time he has worked at the collective farm
After the Law on State Pensions and the Regulations o
the Assignment and Payment of State Pensions went in
effect some collective farms issued regulations gover
ing the pension security of their farmers. According t
these regulations the conditions giving a person the ri
to a pension are in many cases determined on the basi
of the principles of the Law on State Pensions.

The tasks set by the 21st Congress of the CPSU for
improving the welfare of the working people include no
only a rise in the standard of living of working and abl
bodied members of society, but also a considerable im
provement in the living standard of pensioners who ha
stopped working. The chief trend in improving pensio
security is to raise the minimum pensions in accordar
with increased minimum wages. After the adjustment
wages is completed and minimum wages are raised to
400-450 rubles, it is intended to increase the minimun
old-age pensions from 300 rubles in cities and worker
settlements to 400 rubles a month, and from 225 ruble
to 340 rubles for pensioners who live in the countrysic
and who are associated with agriculture.

When the minimum wage is raised to the level of 50
600 rubles a month, the second stage in raising the mi
mum pensions will be effected. The minimum old-age
pensions will be raised to 450-500 rubles a month for
pensioners living in cities, and the minimum pensions
those living in rural localities will be raised accordin
As in the first stage, so in the second, the minimum p
sions granted to invalids and those who have lost their
bread-winner will also be raised. Thus, as a result o
the fulfillment of the Seven-Year Plan the size of pens
will be raised by an average of 50-67%.

By raising the size of the minimum pensions while
serving the size of the maximum pensions it will be p
sible to reduce the gap between the minimum and max
mum pensions from 4 to 2.5 times.

By the end of 1965 the number of labor pensioners will
crease according to preliminary estimates to 14-15 mill
people, as compared with 10.8 million on July 1, 1959, tha
the number will increase by almost 50%, which is greater
the rate of increase in the number of workers and employ
As a result, the proportion of those unable to work and de
ent on state security will be greater than it is today.

The rise in the amounts of the pensions and the in-
ease in the number of pensioners will make it neces-
y for the state to allocate considerable additional
ds for pension security. According to a preliminary
imate, in 1965 about 105 billion rubles will be spent for
payment of state pensions alone, that is, almost four
es as much as in 1955.

The tasks outlined by the 21st Congress of the CPSU in
nection with shortening the length of the working day
l the working week, improving working conditions, and
sing labor productivity, and also solving questions con-
cted with improving the housing conditions of the peo-
, pose new problems in the field of pension security.
is concerns, first of all, old-age pensions and a new
proach to the determination of the age at which the pen-
n should be assigned. Life itself creates two kinds of
nditions on the basis of which there can be different ap-
aches to the problem of the age for retirement on an
-age pension. On the one hand, the widespread intro-
ction of new technique and the automation and mechani-
ion of industry afford tremendous opportunities for re-
cing the number of people employed in industry as a
sult of a rise in labor productivity. This creates op-
rtunities for further lowering the age at which old-age
nsions are assigned. However, the improvement in
rking conditions, better living conditions, the reduction
working time, better medical service for the popula-
n, and the achievements of science, will undoubtedly
d to and are already resulting in an increase in the
n of life and the preservation of the ability to work to
ipe old age. The communist attitude towards work as
rimary need of man will become a trait common to
ery citizen. Under these conditions it is doubtful if
re will be any need to further lower the pension age
l to retire able-bodied people on old-age pensions.

The rise in wages of workers and employees in the
ver and medium income groups, as outlined in the Con-
l Figures, poses new tasks as regards pension secur-
. A sharp increase in the minimum pensions will in-
tably make it necessary, it seems to us, to make cer-
n changes in the proportions between various types of
sions.

The establishment of minimum pensions of 400, 450
l 500 rubles will make it necessary to change the max-
um pensions for 3rd group invalids and for families
o have lost their bread-winner and in which one person
unable to work (at present the maximum pension for
s category has been set at 400 and 450 rubles a month).
t is also necessary to consider the question of the ad-
ability of preserving the present, rather intricate
thod of calculating invalids' pensions and pensions in
e of the loss of the bread-winner. Today the basic
rcentage of a pension for invalidism resulting from
eral illness is calculated, according to the usual
ndards, on earnings up to 500 rubles for 1st group in-
ids, 450 rubles for 2nd group invalids, and 400 rubles
3rd group invalids. In our opinion the amount of the
nings governing the calculation of the basic percentage
he invalid pension should be alike for all invalid
ups.

n view of the rise in minimum wages there should also
an increase in the relative wages used as the basis
calculating pensions to 3rd group invalids, the pension
whom has been set at a minimum or fixed amount.

t present the relationships between the different types
pensions differ depending on the size of earnings. In
case we may notice a decrease in the differences in
size of the pensions as wages increase. This tendency is manifested between the sizes of pensions of one and the same type, depending on the invalid group or the number of members of the family who are unable to work.

However, the relationships between the sizes of old-age and invalid pensions have a different tendency. This tendency is particularly noticeable in the relationship between the sizes of old-age pensions and pensions for 1st-group invalids. Whereas for the 1,000-1,300 ruble wage group 1st-group invalid pensions are higher than old-age pensions, at higher wage levels the relationship changes: old age pensions are higher than pensions for 1st-group invalids.

The preservation of such relationships in the future is hardly justified. With the further improvement in pension security this question should also be solved.

The questions discussed above do not exhaust the list of problems that must be solved in the near future in the sphere of pension security. The working out of these and other problems in the sphere of social security must have the necessary scientific basis.

Soviet people are keenly interested in the material security of the aged and invalids. The working people want to know their rights in the field of social security. The practical workers of the social security organs, the active trade union workers and workers in financial organizations need literature on this question. However, the problems of social security have not as yet been adequately worked out. Juridical literature has few theoretical works on questions of material security for the aged and invalids, while the economic literature has none whatever.

As a result of the lack of scientific-research work in the field of social security and, consequently, the absence of scientific methods in planning and financing expenditures for social security, the funds for social maintenance are not always correctly allocated. For instance, actual expenditures for the payment of state pensions in 1957 proved to be 7 billion rubles more than was provided for by the budget. Such a divergence between the actual expenditures and the planned can be avoided. It is possible to calculate the number of pensioners and the average amount of the pensions if there is an adequate statistical basis and if correct methods are employed, and they must be determined with greater exactness.

Back in 1929 the Central Committee of the All-Union Communist Party (Bolsheviks) noted in a special decree "On Social Insurance": "The poor scientific elaboration of questions ... of the theory and practice of social insurance is one of the chief shortcomings in social insurance, lowering the quality of insurance work and leading to the unproductive expenditure of insurance funds." At that time the Central Committee of the Party instructed the People's Commissariat of Labor and the People's Commissariat of Health to increase scientific work on social insurance, using the existing scientific-research institutes for the purpose. These instructions of the Party Central Committee are equally urgent today. The theory of social security, in particular of social insurance, is one of the most backward and neglected fields. We do not have a single scientific research institute, not a single higher educational establishment, which specializes in problems of social insurance and social security. True, a certain amount of work in this field is being done at the Moscow Higher Correspondence School of the Trade Union Movement, but for the most part this school studies the work of the trade unions in connection

(Continued on Page 50)

Voprosy Ekonomiki, No. 1, 19

O. Bogomolov:

The International Socialist Division of Labor

The world socialist system has entered a new and decisive phase of peaceful economic competition with the capitalist system: in the near future it should outweigh the capitalist system in world production, outstrip the more developed capitalist states in the productivity of social labor, in per capita output and attain the highest standard of living in the world. The solution of these great tasks presupposes the constant concern of the socialist states for the close coordination of their economic development based on a growing international division of labor. "The international division of labor, especially its highest forms — specialization and cooperation," Nikita Khrushchev pointed out in his report to the 21st Congress of the CPSU, "is to play a big role in the development of the economy of the socialist camp. This contains new, additional possibilities for a rise in production in the socialist camp as a whole and in every socialist country individually. Not a single country could develop alone at such a tremendous pace as is possible within the system of socialist states." That is why the question of the international division of labor in the socialist camp, of its further development, has become one of the main problems in the long-range economic planning of the Soviet Union and the People's Democracies.

The successful realization of the practical tasks facing the planning bodies of the socialist countries in the field of international economic cooperation requires the solution of a number of theoretical and methodological problems. It is important, for instance, to lay down the main principles of the further development of the international division of labor on the basis of a correct understanding of its essence as an economic category.

The general theoretical problems concerning the development of the world socialist economic system assume special urgency in connection with the forthcoming elaboration and coordination of the long-range national economic plans of the member-countries of the Council for Economic Mutual Aid (CEMA) for the period up to 1975. The coordination of these plans is based on the laws of the development of the international socialist division of labor and on the main principles of the international specialization and cooperation of production in the socialist countries. A deeper analysis of the economic development of the world socialist system and the generalization of the economic collaboration of the socialist countries are being conducted for this purpose. The economists of these countries are carrying on, to an ever greater extent, the necessary analytical work and generalizing its results.

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The international division of labor means the specialization of individual countries, within the framework of the world economy, in the production of definite kinds of goods and presumes that they complement each other's economy. By its nature the international division of labor is an objective process, the necessity for which has become especially pressing in connection with the development of a large-scale machine industry with its steady concentration and technical improvement. As w know, the more progressive plants from the technical economic point of view are those intended for mass, se al production, which presumes the existence of a sufficiently large market capable of absorbing this output. ternational specialization in output and the exchange among countries of products made by specialized bran es of industry considerably facilitate the creation of such plants. The international division of labor is als predetermined by the natural and climatic conditions o these countries, by their geographical location, raw ma rial and power resources, the skill of their labor powe as well as by the population's historically evolved trad tions.

The different countries do not participate in the inte national division of labor to the same extent. Big coun tries with vast territory and a large population, plus a more or less full supply of natural wealth, develop primarily on the basis of an integral economic complex. They have especially favorable opportunities for maki the most of all the advantages of specialization and cooperation within the country. Countries with a compar tively small territory and insignificant natural resour depend greatly on the external market and the international division of labor.

The per capita foreign trade turnover can serve, in some measure, as an indication of the extent to which dividual countries are included in the system of the international division of labor. For instance, in the Sovi Union the per capita foreign trade turnover in 1958 amounted to 170 rubles, in Czechoslovakia — 850 rubl in East Germany — 820 rubles, in Hungary — 525 rubl in Poland — 315 rubles, in Bulgaria — 290 rubles, and Rumania — 195 rubles. Although these figures do not fully reflect the role of the international division of la in the national economic development of individual cou tries, nevertheless they make it possible to show the ferences between them. The ratio of the total foreign trade of a country to its total output or to its national come gives a more correct picture. For instance, Hu gary's foreign trade in 1958 was almost 28% of its national income (in current prices); in Czechoslovakia th ratio was about the same, while in the USSR it amount to only a few percent.

The advantages of the international division of labo are exploited differently by the socialist and the capit ist world. The division of labor, as was repeatedly stressed by the founders of Marxism-Leninism, alway reflects a definite distribution of labor conditions or, be more exact, the means of production in the given s cial system. "The various stages of development in t division of labor," Karl Marx and Friedrich Engels pointed out, "are just so many different forms of owne ship, i.e., the existing stage in the division of labor d termines also the relations of individuals to one anoth in accordance with their relations to the materials,

ruments, and products of labor." (1) In another place
note that "the division of labor implies from the out-
the division of the *conditions of labor*, of tools and
erials." (2)

hus, the character of the international division of la-
depends not only on the level attained in the develop-
it of production, the territorial distribution of natural
ies, the existence in a country of one or another natu-
prerequisite for production, but also in whose posses-
are the means of producing goods for international
ange.

he capitalist type of division of labor among countries
redetermined by the domination of private ownership
oods in international trade and of the means of pro-
ion of these goods. Therefore, it is characterized by
inequality of countries, the powerful states ruling the
k and grabbing the key positions in their economy, and
mpetitive struggle among the participants in world
le. In the process of development of the international
italist division of labor, for many countries the ad-
ages of the division of labor turn into their opposite.
er capitalism a consistent division of labor among
ntries, as is required by the level attained in the de-
pment of technique and concentration of production, is
ossible.

he really full and consistent exploitation of the tre-
dous advantages that international division of labor
ls for different countries has become possible only
the formation of the world socialist system. A funda-
tally different division of labor has been established
ng the socialist countries, one that meets the require-
ts of social ownership of the means of production and
ch therefore excludes the inequality of countries, the
mission of some countries to others, competition, etc.
consequence, the international socialist division of
r is conducive both to the rapid expansion of the gen-
economic basis of the world system of socialism as
as to the more rational use by each country of its
ral and economic conditions of production and the de-
pment of the creative abilities of every nation.

he development of the new type of international divi-
of labor is characterized by the fact that as the so-
ist states forge ahead the economic ties between them
me deeper and more diversified. With the develop-
t and strengthening of the world socialist system the
ency noted by V. I. Lenin "of setting up a single world
omy as a whole, regulated by the proletariat of all
ons according to a general plan, a tendency which is
e clearly discernable already under capitalism and
ch unquestionably should be developed further and
completed under socialism," (3) is becoming ever
rer. Consequently, the development of the economy
dividual socialist countries on the basis of the inter-
onal socialist division of labor leads not only to an in-
se in the volume of output, to a more rational loca-
of production, etc., but also, through a number of con-
tive transitional forms, to ever closer interrelations
een the economies of these countries, to the gradual
tical implementation of the principle of the unity of
world socialist economy noted by Lenin.

ere is much in common at the present stage between
division of labor within the individual socialist states
the division of labor among them, but there are also
tantial differences. Every socialist country repre-
s a single economic entity having its own national
omic plan, currency and price system. Proceeding
the requirements of economic development, it may
distribute and redistribute its material sources, labor power and capital investments among the different branches of the national economy and among the separate areas of the country as it sees fit.

The world socialist economy is the sum total of the mutually related economic systems whose political, economic and cultural development proceeds on the basis of the self-reliance and independence of socialist countries. The planned distribution of production among the states of the socialist system (just as the redistribution of funds for capital investments) can be carried out only on a voluntary basis, with the consent of all the interested countries by concluding special agreements. The main form for the planned regulation of the economy of the world socialist system and the conscious application of the law of the planned, proportional development of the economy at the present time is not a single economic plan but the voluntary coordination of the national economic plans of the socialist states — a new form of international economic relations inherent only in socialist states.

The coordination of the long-range development of the economies of the socialist countries is effected through bilateral agreements between these countries, as well as within the framework of the Council for Economic Mutual Aid through special permanent committees on economic and scientic-technical cooperation in separate branches of industry and agriculture. These committees have analyzed the status of the corresponding branches of the national economy in all the member states of CEMA and have drawn up recommendations on the volume of production and mutual deliveries of the most important goods for the period up to and including 1965.

To ensure the further development of coordination in increasing the output of the member states of CEMA and heightening the effectiveness of the work of CEMA's permanent committees, it is necessary to solve the problem of the specialization of the different branches within their framework, also taking into consideration the general inter-industry economic problems in the international division of labor. The conference of the representatives of the Communist and Workers' parties of the member states of CEMA, held in May 1958, called attention to the need for working out the main principles of the development of the entire system of the international division of labor as a whole, and doing so within the general complex of the different branches of the economy. The study of these principles and the mechanism for their realization will make for the correct and well-based planning of the development of international specialization and cooperation of production, both in the individual branches and in the whole world socialist economic system.

The session of CEMA's Standing Committee on Economic Problems held in Moscow in November 1959 discussed and approved the order, the time and the program for drawing up the main principles and indices of the international socialist division of labor.

The economists of the socialist countries are studying the difficult scientific problems contained in the above-mentioned program. (4) As I see it, the following main principles of the development of the international socialist division of labor may be cited among those that have to be elaborated in detail:

1. The international socialist division of labor must ensure a steady rise in the effectiveness of social production and the growth of the people's well being in the world socialist system as a whole and in the individual

countries which it included by economizing on current and capital expenditures per unit of output, by a more rational use of natural wealth, production capacities and the labor resources which each country has. This task is objectively predetermined by the nature of the new, socialist social order, which creates boundless opportunities for the rapid and systematic development of material production, the perfection of technique and organization. “The economy of time, just as the systematic distribution of working time among the various branches of production,” Karl Marx wrote, “remains the prime economic law on the basis of collective production.” (5)

As the international socialist division of labor is intensified, it is necessary to apply the principle of the economy of labor (or the economy of current and capital expenditures) ever more consistently. With this in view, evidently what should be elaborated first of all is a system of indices which would make it possible to appraise and compare the economic effects obtained by individual socialist countries as a result of the measures they undertake for international specialization and cooperation of production. Such indices could be: the specific amount of capital per unit of capacity, production costs, output per worker or per hour, etc. In view of the differences in the systems of price setting and the methods of statistical accounting in the individual socialist countries, comparability of the above mentioned indices entails a great deal of complicated work. The elaboration of methods for comparing the economic effectiveness of capital investments, production costs and labor productivity in the member countries of CEMA is now being conducted under the guidance of CEMA's Standing Committee on Economic Problems.

2. The international socialist division of labor must ensure coordination and proportionality in the development of interrelated parts of the world socialist economic system. As a result of the expansion of socialism beyond the limits of a single country and its transformation into a world system, the law of planned, proportional development of the national economy (as well as other economic laws of the new social order) have come to determine the expansion of the economies of both individual countries as well as of the system as a whole. Of particular importance are the relationships between raw material and manufacturing sectors, between accumulation and consumption, between the development of international specialization and cooperation in production and the development of transportation, etc. It is not only a matter of material proportions but one of value proportions as well, for the material (natural) relations between socialist states take the form of commodity exchange. In this connection, however, although value proportions play a significant role, they are nonetheless subordinate to material proportions.

3. The intensification of the international socialist division of labor is accompanied by a steady levelling-out in the degree of development of productive forces and the living standards of the population of individual countries, an elimination of substantial differences between socialist countries in output per capita, productivity of social labor, consumption per capita, etc. All of this is an expression of and, simultaneously, a prerequisite for the objective process of the ever increasing international character of the productive forces of the socialist countries. The smaller are the differences in their levels of economic development, the greater are the possibilities for the most complete and consistent utilization of the advantages of the international socialist division of lal and the world socialist economy.

4. The international socialist division of labor crea the conditions for the most harmonious possible econo ic development of each country involved in it. It not o does not exclude, but on the contrary, assumes the de opment of a many-sided economic structure of the ind vidual countries, including raw material and manufact ing branches, branches producing consumer goods and means of production.

It is difficult, for example, to find a country for whi it would not be worthwhile to develop its own power in try, its own building materials industry, the light and food industries. It is also difficult to find a country in which there is no place for the production of the princ types of agricultural products. It should be particular noted that, as experience shows, the development of m chine building, which produces equipment for those branches which determine the economic character of a country, has a highly favorable effect on the whole nat al economy and is an important factor in accelerating process of expanded reproduction.

Thus, the typical division in the economy of the capi talist world between industrial and agrarian-raw mate al countries, with the latter as appendages of the form is completely excluded in the socialist system.

In working out the problems of the international socialist division of labor it is necessary to bear in min that an excessively narrow specialization of the nation economy and the refusal of a given country to develop optimum complex of different branches lowers the effe tiveness of its national economy, increases transporta tion costs, etc. On the other hand, the creation of a closed economic complex, especially in small countri as a rule also seriously lowers the effectiveness of na tional production, for not all countries possess equall favorable conditions for the development of all branch

The above cited main principles of the international socialist division of labor are the complete opposite c the principles of the division of labor among the countries of the capitalist world.

***

An analysis of the practice of economic collaborati by the countries of the world socialist system and the prospects for its development makes it possible to sh light on some concrete problems of expanding industr production on the basis of cooperation and specializat bearing in mind the principles presented above.

At the present time the most vital problem is to ensure harmony between the development of the raw ma rial and power branches, on the one hand, and the development of the manufacturing industry, on the other

The insufficient supply of raw materials for the ma facturing industry of a number of countries of the soc ist camp is to be explained primarily by objective rea sons. One of these is the limitation of the raw materi resources of the European People's Democracies. C ducting a policy of discrimination in trade with the co tries of the socialist camp and refusing to sell them those goods which they classify as “strategic,” the ca talist countries are trying to aggravate the problem o raw material supplies in the People's Democracies. important reason for the shortage of raw materials is also the division of Germany by the Western powers, a result of which one of the socialist countries — the German Democratic Republic, which possesses a wel developed manufacturing industry — is deprived of a ber of very important raw material sources on the itory of West Germany.

he lowest domestic supplies of the most important ls of raw materials may be noted in the German nocratic Republic, Hungary and partly in Czechoslo-a. A comparison of the needs of the German Democratic ublic, Hungary and Czechoslovakia for the principal raw erials for their heavy industry with the volume of out-in these countries shows that their oil and iron ore ds are met 70-90%, and in many non-ferrous metals 65%, by imports, primarily from the Soviet Union. f of the requirements of Hungary and the German nocratic Reuublic in coal and coke are covered by im-ts. Thus, a considerable part of the basic raw materi-necessary for the development of a modern industry nese countries is imported.

recent years the socialist countries have accelerated development of the raw material branches of industry. long-range national economic plans of these coun-s envisage the ever broader use of their own mineral erves and the strengthening of the domestic raw ma-al base of industry.

ith the growth of the economy of the socialist coun-s the development of a power base is assuming ever ater importance. It is necessary to ensure a higher of growth in the output of electric power as com-ed to the rate of growth of the gross industrial prod-in order to achieve a steady expansion of production nany branches of industry and higher labor productiv- The output of electric power in the Soviet Union is wing much faster than the gross industrial product. In mber of the European People's Democracies, how-r, industrial production is still increasing faster than output of electric power. This means that these Peo-s Democracies are experiencing an ever greater need electric power and face the necessity of rapidly sting its output.

he facts cited above show that international collabora- and the growth of the division of labor in the socialist p are playing an ever-increasing role in providing in-dual countries with the raw materials and fuel they d for the rapid development of their industry. The So- Union, which possesses very rich reserves of diverse erals and a mighty mining industry, is rendering a at deal of aid to the People's Democracies. In the cur- Seven-Year Plan period the Soviet Union's deliveries he European People's Democracies will increase by following amounts: iron ore — 2.2 times, pig iron — times, oil — more than 3-fold, apatite — 2.5 times, The USSR's pig iron ore deliveries to these coun-s in 1965 will amount to approximately 25 million tons. he problem of supplying the European People's De-racies with oil will be solved on the basis of the in-ational socialist division of labor. In keeping with the n-Year Plan, in 1965 the USSR will deliver a total of t 15 million tons of oil to Poland, the German Demo-ic Republic, Czechoslovakia and Hungary, and sev- million tons of oil and petroleum products to China. transportation of such a big amount of oil by rail is omically inexpedient. That is why the People's De-racies and the Soviet Union decided on the joint con-ction of the world's biggest pipeline for pumping oil the Volga Region. It is planned to build, with Soviet a number of large refineries and oil-chemical plants e countries receiving this oil, and this will play an rtant role in enhancing the fuel and raw material re-ces these countries need for the further development of both heavy industry and the production of consumer goods.

At the present time one of the ways of solving the problem of supplying the European countries of the socialist camp with electric power is the unification of the power grids of these countries. Power transmission lines have already linked up East Germany and Poland, East Germany and Czechoslovakia, Poland and Czechoslovakia, Czechoslovakia and Hungary, Rumania and Bulgaria. The unification of the power systems, as we know, makes it possible to reduce the reserve capacities of each separate power system, i.e., to effect an economy in expenditures on the construction of power plants, and besides, to ensure the corresponding countries a steady supply of electric power. In the next several years a power transmission line will be built to bring current from the Southwestern Power System of the Soviet Union to Hungary, which will make it possible to enhance Hungary's electric power supply. Another line carrying current from the Northwestern Power System of the USSR to Poland is planned for construction. New powerful transmission lines will be laid between the European People's Democracies.

The problem of developing the branches of the mining industry is, to a certain extent, being solved on the basis of joint capital investments by the socialist countries. For instance, Czechoslovakia gave a loan to Poland for developing her coal industry. In her turn, Poland took it upon herself to supply Czechoslovakia with coal to cover the loan, and after that to do so by ordinary sales transactions. The German Democratic Republic gave Poland credits for building large lignite pits. Poland will repay East Germany by supplying her with coal and electric power.

Czechoslovakia's participation in the development of Rumania's power industry through capital investments will play a big role in ensuring her power supply. With the help of the credits obtained from Czechoslovakia, Rumania will put up an electric power station working on natural gas with a capacity of 4 billion kwh. a year, half of which will be transmitted to Czechoslovakia.

Czechoslovakia also takes part in tapping the sulphur deposits in Poland and iron-nickel ores in Albania. Rumania, Czechoslovakia, Poland and the German Democratic Republic are jointly building a large pulp plant in the Danube delta that will use reed as a raw material.

The above-cited form of collaboration among the socialist countries in capital construction work will, in all probability, be further developed as time goes on.

The plants jointly built by the socialist countries are the property of the country of whose territory they are set up. Thus, the joint investments by the countries of the world socialist system have nothing in common with the shares in the joint-stock companies of capitalist countries. This is a new form of economic collaboration reflecting socialist mutual-aid relations.

Besides improving the raw material base of heavy industry, the countries of the world socialist economic system are setting themselves the task of increasing the output of raw materials for the light and food industries. The problem of ensuring the light and food industries with raw materials is being solved by the Soviet Union and the other socialist countries by taking effective steps to develop domestic agriculture, and also by the intensification of the international division of labor in a given field.

What, then, are the trends in the international specialization of farm production in the countries of the socialist camp? Among the factors determining this specialization, especially noteworthy are the soil and climatic conditions, as well as the sown area per capita in individual countries. All other conditions being equal, the latter circumstance predetermines to a great extent the character and profile of a country's agriculture.

Thus, the German Democratic Republic and Czechoslovakia will fully meet all their needs for a number of the main livestock products out of their own production. However, since these countries have less than half a hectare of sown land per capita, evidently it will be difficult for them to entirely satisfy their needs out of their own production as far as the most important field crops are concerned. They are increasing the production of fodder, but concentrated food will be mainly imported, and the same goes for food cereals. Czechoslovakia will continue specializing in the production and export of sugar beet and hops.

Poland, Hungary, Rumania and Bulgaria can fully satisfy their requirements in the main farm and livestock products out of their own production besides exporting many agricultural products. For instance, taking into account the needs of the other socialist countries, Bulgaria intends to increase the output of technical crops to the maximum, especially oil-bearing crops, and to expand the production and export of early vegetables and fruits.

Among the socialist countries the Soviet Union has the largest per capita sown area (about 1 hectare). It will be a large-scale producer and exporter of diverse farm products in the system of the international socialist division of labor, although it may at the same time purchase some of the items in a friendly country (for instance, fruit and some industrial crops).

One of the most vital questions in the development of the world socialist economic system is the further specialization and cooperation of the machine-building industries of the socialist states.

The importance of international specialization and cooperation in this branch is increasing, particularly due to the fact that the machine-building industry produces a very wide assortment of goods. The boosting of serial production is an important factor in the growth of labor productivity and technical progress. All the countries of the socialist camp — big and small — are striving to make the transition, on the basis of international specialization, to really mass, mechanized and even automated production. This will help to level out the economic and technical development of the socialist countries by achieving high levels of labor productivity.

Considerable work has been done in the field of specialization and cooperation of the machine-building industry within the framework of the Council for Economic Mutual Aid. In 1956 the 7th session of this council in Berlin adopted recommendations on the specialization of production among the member-countries of CEMA in over 600 groups of machines and equipment, asking individual countries to concentrate on the production of a definite assortment of goods. The recommendations made by CEMA chiefly concerned those branches which were earmarked for construction. They were directed primarily against the intensification of parallelism in the future, and for creating the proper conditions for intensifying specialization and cooperation among countries.

Further practical steps for the elimination of parallelism in a number of branches of the machine-building industry demand of the economists of the socialist countries the solution of several intricate problems,
cluding a better theoretical foundation for the basic
ciples and criteria of international specialization in
machine-building industry. It is especially importa
work out methods of comparing the effectiveness of
chine-building production in individual socialist cou

The determination of one or another machine-buil
profile for every country depends on diverse factors
a rule, international specialization in the production
machines and equipment must correspond to the mai
trends in the development of the other branches of th
tional economy of a given country. Therefore, the d
sion adopted by the member countries of CEMA to c
centrate the production of blast-furnace equipment i
USSR, Poland, and Czechoslovakia, equipment for th
production of chemical fibers and enriching of lignit
in the German Democratic Republic, corn harvesters
in Rumania and Hungary, etc., is fully justified. At
same time, this is not the only, and the more so, not
decisive, principle of specialization. It is necessary
sides, to take into account the economic effectivenes
production and capital construction (the tolls, capital
quirements), the production personnel in the country
historically evolved production skills of the populati
etc.

Many very important branches of machine building
have been developed in the majority of the socialist
tries. But this does not exclude inter-state speciali
tion and cooperation, which in the given case assume
intra-branch character. In other words, the machine
building industries of individual countries compleme
each other not through the exchange of goods produce
different types of machine building, but by the excha
of goods of different types and sizes manufactured b
and the same production branch, standard machine u
etc.

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The development and intensification of the interna
al socialist division of labor helps create the necess
conditions for bringing the levels of the economic an
technical development of the individual socialist cou
tries closer to each other. The action of the law of s
tematic, proportional development in the world soci
economic system ensures the gradual rise of countr
that in the past had lagged behind in their economic
velopment to the level of the advanced countries. A
result, the general line of the development of these
countries is levelling out.

It is a completely different situation in the capital
camp, where the law of the inequality of economic a
political development reigns, where actually the diff
ences in the levels of economic development of indiv
countries are deepening.

The Communist and Workers' Parties of the soci
countries show constant concern for gradually overc
ing the backwardness inherited from the past by the
nomically less developed socialist countries on the
sis of close cooperation, mutual aid and a more rati
division of labor. “We are going ahead in a single f
Comrade N. S. Khrushchev said at the 21st Congres
the Communist Party, “by rendering fraternal aid a
support to each other. Thereby the economic devel
ment of all the socialist countries will gradually lev
out.”

The profound studies by the Communist and Work
Parties of the countries of the socialist camp of the
of development of the world socialist economic syst

ɛe it possible to determine what paths are to be taken the further strengthening of the economic might of the re world socialist system and the national economy ach of the countries in this system. Thanks to the ba- advantages of socialist planned economy, the indi- ıal socialist countries that lagged behind in the past accelerating the rate of their economic growth and attaining the level of the advanced countries.

he elimination of the gap between the economic levels ndividual countries is an objective law of the develop- ıt of social production in the world socialist economic tem. Taking advantage of this objective law, the Com- ist and Workers' Parties of the socialist countries are ilizing the working people to ensure high rates of wth of production, a rise in labor productivity, and a id transformation of the formerly backward agrarian ıtries into advanced states with a high level of de- pment of modern industry and a highly mechanized iculture. By taking full advantage of the international ialist division of labor the socialist countries can siderably speed up the solution of this historic task.

he fact that the individual socialist countries are wing closer together in the level of their economic de- pment signifies the elimination of the substantial dif- ences in the level of development of the national pro- ive forces. This is reflected in the dynamics of a ıber of very important economic indices. The level he economic development of individual countries can ompared by such indices as per capita output, per ita national income, labor productivity in industry, etc. h of these indices taken separately is insufficient for ing the correct comparisons and drawing the right clusions. A whole system of such indices is neces- y for the all-sided characterization of the level of na- al economic development of each country.

f course, the fact that the economic levels of indi- ıal countries are coming closer together does not n that the output of individual kinds of industrial and cultural products and the per capita national income, vell as the level of labor productivity, will ultimately ompletely the same in each country of the socialist p. Actually, due to unequal natural and climatic con- ons, the necessity of operating enterprises not only the best or medium, but also with poor production fficients (for instance, in the tapping of mineral de- ts), and the differences in the industrial structure of r economies, evidently there will remain some dif- nces between the individual socialist countries in nite economic indices, including the productivity of so- labor. However, any considerable gap in the levels conomic development of the individual socialist coun- s, and primarily the gap caused by historical condi- s in the development of the individual countries and r former subordinate status in the world capitalist ıomic system, will be eliminated.

he elimination of the gap between the levels of eco- ic development of the socialist countries is being at- ed by the particularly high rates at which production rowing in the formerly more backward countries. reas industrial production in the socialist camp as a le increased five-fold by 1958 as compared with pre- times, it increased considerably more in the coun- s which had formerly lagged behind in their economic elopment: in Albania — 18-fold, Bulgaria — 9-fold, ınd — more than 5.5-fold, and in the Chinese People's ıblic industrial production grew about 10-fold in the od 1950-1958.

Recently the press of the socialist camp has published a number of estimates graphically showing the process whereby the levels of industrial development of the individual socialist countries are drawing closer together. (6) These estimates are usually based on data embracing a broad assortment of the most important kinds of natural products, alike for all countries and at the same prices. To avoid making major errors, the estimates should include a maximum number of different kinds of natural products (say, 100-150 industrial items and 20-30 farm products). Despite the inevitable roughness of such estimates, nevertheless they give a definite idea of the actual relationships between the levels of economic development of different countries. This is also shown by the approximate coincidence of the results of various calculations, including the ones made by the Economic Scientific Research Institute of the State Planning Committee of the USSR. Besides, the results are confirmed by a comparison of indices in kind.

In comparison with the level of per capita industrial production in the USSR, the per capita output in Poland amounted to 77% in 1950 and already 85% in 1958. In Rumania the corresponding figures are 46% and 50%, in Bulgaria 35% and 40%.

It is characteristic that the differences between the socialist countries in the level of labor productivity are considerably less than in the level of per capita industrial production. Evidently this is to be explained to a considerable extent by the fact that countries like Bulgaria, Rumania and Albania have set up their industry with the help of the Soviet Union, using the more advanced technical achievements. That is why, despite the fact that the total volume of industrial production is comparatively small in these countries, the level of labor productivity in industry is quite high.

A necessary prerequisite for eliminating the differences in the national economic levels is a more rapid rate of growth of industry, agriculture and also the national income in the socialist countries with lower indices for per capita production and consumption. Therefore it is quite natural that the rates of industrial growth in the Chinese People's Republic, the Korean People's Democratic Republic, Albania, Bulgaria and Poland surpass the rates of industrial growth in the other socialist states.

Drawing the socialist countries with a less developed industry up to the level of the industrially advanced states is not a haphazard, automatic process. It is ensured by tremendous organizational work on the part of the Communist and Workers' Parties in the mobilization of all the internal reserves and possibilities of the economically less developed socialist countries, the maximum extension of their friendly collaboration with all the states of the socialist camp. It is obvious that the countries of the socialist camp which are as yet insufficiently developed industrially can count not only on their own forces but also on the unselfish aid of the USSR and other economically more developed countries of the socialist camp.

The elimination of the lag in the development of their national economies inherited from the past by a number of socialist countries is an important factor in strengthening the might of the world socialist system and in the achievement of the victory of socialism in the worldwide economic competition with capitalism.

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The collaboration between the Soviet Union and the People's Democracies which is being strengthened with every passing year is a striking example of the implementation of the all-conquering principles of socialist internationalism. The social order in the countries of the world socialist system makes possible the planned distribution of labor among the different nations and the devotion of the creative activities of hundreds of millions of people to a single, common aim: the realization of the lofty ideals of communism.

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sian edition).
(4) Thus, the magazine *Politicka ekonomie* (No. 6,
published in Czechoslovakia, carried an article by th
economist V. Kaigl in which several principles of the
ternational socialist division of labor were formulate
presented for discussion.
(5) *The Marx and Engels Archive*, Vol. IV, p. 119
sian edition).
(6) *Planovane hospodarstvi*, 1959, No. 11, p. 869;
Polytika, No. 28 (123), July 11, 1959.

V. ACHARKAN

(Continued From Page 43)

with state social insurance. The organization of pension security, which is the chief form of social security, is insufficiently studied. Yet in the more than 42 years of the existence of social security in our country a tremendous amount of material has been accumulated which requires systematization and study. The workers of the social security organs do not sufficiently know what is being done abroad in connection with social security problems. The useful experience of the People's Democracies is being studied very little.

Our press does not publish concrete criticism of the theory and practice of pension legislation in the capitalist countries. The advantages of pension security in the USSR are inadequately clarified. Questions concerning the material security of the aged and of invalids are incompletely and often erroneously expounded in economic and juridical textbooks. All of this has a negative effect on the work of the social security organs. It is difficult for the local workers to raise their qualifications independently and to widen their horizon in the field of social security.

The tasks of improving social security urgently call for a special study of all these questions. It seems to us that it would be of great scientific interest and practical significance to elaborate, for instance, such themes in the
field of social security as: Marxism-Leninism on so
security; the advantages of the socialist system of so
security; the history of the development of social sec
in the USSR; social security in the People's Democra
methodology of long-range planning of expenditures f
social security; the right to material security in old
in case of sickness, and in case of loss of one's abili
work.

The working out of theoretical problems in the fiel
social security will contribute to the successful solu
of the task of perfecting social security in the USSR
accordance with the decisions of the 21st Congress o
CPSU.

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Article 146.
(2) *Sobranie Postanovlenni SSSR*, 1957, No. 10, Ar
106.
(3) *Ibid.*, 1957, No. 2, Article 8.
(4) Decree of the Council of Ministers of the USS
dated August 6, 1958; *ibid.*, 1958, No. 14, Article 111
(5) Hereafter referred to as the State Committee
Committee.

E. GERSHANOV

(Continued From Page 38)

No special decision of the trade union committee is needed for the issuance of an order for the obligatory fulfillment of its resolutions. Nor is there any need of this in cases when an order is issued for the obligatory fulfillment of the LDC's decisions which have been left in force by a resolution of the trade union committee. The worker concerned can request such an order within a month from the day he has been given an extract from the protocol of the LDC meeting. The worker submits this order, within a period of three months, to the people's court of the district in which the enterprise is located. The Regulati
Governing the Procedure for the Consideration of La
Disputes do not provide for the possibility of recover
funds already paid out on the basis of the LDC decisi

NOTES

(1) Hereafter designated as LDC.
(2) Hereafter this is also meant to include institution
and organizations.

Voprosy Ekonomiki, No. 2, 1960

. *Vinogradov:*

ollaboration of Socialist Countries in the evelopment of Machine Building

he steadily growing international division of labor ong the countries of the world socialist economic sys- leads to a higher rate of development of all branches he national economy of the socialist countries. Of cial importance in this respect is the international so- list division of labor in the machine-building and met- working industries, which is a decisive factor in en- ing the expanded reproduction of the means of produc- .

The rate of development of the machine-building and tal-working industries largely determines that of all nches of the national economy. This is because the chine-building industry provides all these branches h machines, equipment, instruments, mechanisms, aratus and other principal means of production. The elopment of machine building in the socialist coun- es is a major prerequisite for introducing comprehen- e mechanization and automation in production and sing the productivity of labor.

nternational socialist division of labor in machine lding is intended to contribute to a higher rate of development in this leading branch of industry.* In the conditions of the world socialist economic system, specialization and cooperation in the machine-building industry of socialist countries is being carried out on an increasing scale. Individual socialist countries are developing various branches of machine building with due regard for both the existing possibilities as well as for the needs of the countries of the world socialist system for the products of these branches. Specialization and cooperation in the machine-building industries of these countries ensures higher technical standards and lower production costs in machine building.

Close economic and scientific-technical collaboration and fraternal mutual assistance among the socialist countries contribute to a constant and rapid growth in the production of the machine-building industry. In the socialist countries the development of machine building considerably leads the growth of all other industries, which is confirmed by the data of the following table (1950 = 100).

***

	All Industry					Machine building and metal-working				
	1953	1955	1956	1957	1958	1953	1955	1956	1957	1958
Bulgaria	159	190	218	250	287	189	243	283	349	431
Hungary	182	200	183	204	229	255	245	229	251	295
GDR	160	190	202	217	241	178	215	234	252	292
Poland**	...	100	...	120	132	...	100	...	130	148
Rumania	168	203	225	244	267	220	277	332	379	420
USSR	145	185	205	226	248	159	220	251	284	324
Czechoslovakia	146	170	186	205	228	207	236	269	297	...

** 1955 = 100

he more rapid rate of growth of production in the ma- ine-building industry is highly important for ensuring priority growth of production of the means of produc- in the world socialist economic system. The more id growth of machine building as compared with the ansion of the production of all industry will prevail in future as well, which is borne out by the perspective s for the economic development of the socialist coun- s. Thus, the target figures for the development of the iet national economy for 1959-1965 provide for ap- ximately an 80% growth in gross industrial output, reas the output of machine building and metal-work- will roughly double. The directives for the develop- t of the national economy of the People's Republic oland for 1959-1965 provide for an 80% increase in gross industrial output within this period, while in the five years from 1961 to 1965 industrial output is to increase by approximately 50%, with the output of machine building within the same five years increasing by more than 70%. The Seven-Year Plan of economic development of the GDR for 1959-1965 contemplates approximately a 90% growth in industrial output by 1965 as compared with 1958, while the output of machine building within the same period will more than double.

The advantages of the socialist economic system have enabled the socialist member countries of the Council of Economic Mutual Assistance to attain a considerably higher rate of development of machine building than the leading capitalist countries.

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* The present article discusses chiefly the problems of collaboration in the development of machine building in the CEMA (Council of Economic Mutual Assistance — editor) countries.

Apart from the expansion of existing branches of machine building, a number of new branches have been created in the European People's Democracies in the post-war period. These include ship building in Bulgaria, the GDR and Poland, motorcar- and tractor-building in Hungary, Poland and Rumania, the power machinery in Poland and the GDR, electro-technical machine building in Bulgaria and Rumania, the production of roller ball-bearings in Hungary, Poland, Rumania and Czechoslovakia, instrument-making in Hungary and Poland and the production of rolling equipment in the GDR.

The following branches of machine building have been given priority in these countries in the post-war period: machine-tool building, which provides machine building itself with the means of production and determines its technical level, power engineering, electro-technical and metallurgical machine building, which ensure electrification and the development of the iron and steel industry, and instrument-making, which contributes to integrated mechanization and automation, as well as other branches.

The branches of machine building, both old and new, have been expanding to an ever greater extent on the basis of the development of the international socialist division of labor.

The share of machine building and metal-working in the entire industrial output of European socialist countries has been steadily increasing. Thus, it has increased from 26% in 1950 to 30% in 1957 in the GDR, from 7% in 1937 to 20% in 1959 in Poland, from 13.3% in 1950 to 21.5% in 1957 in Rumania, and from 18.4% to 26.6% in Czechoslovakia, respectively.

As a result of the creation of new substantial production capacities in machine building, as well as a more rational utilization of existing capacities, the output of the major types of machinery and equipment has shown a sharp increase. Thus, in the CEMA countries the output of metal-cutting machine tools increased by more than 2 times in 1957 as compared to 1950, of turbines by 2.4 times, of power transformers by 2.4 times, of tractors by 1.8 times, of trunk-line diesel locomotives by 3.5 times, of trunk-line electric locomotives by 3 times, of passenger cars by more than 2 times and of roller ball-bearings by 3.4 times.

The output of a number of major branches of machine building produced by the CEMA countries bulks prominently in world production. In 1956 they manufactured 21% of all tractors, 58% of grain harvesting combines, 23% of freight cars, 25% of metal-cutting machine tools, 40% of trunk-line electric locomotives and 17% of lorries.

The growth of machine-building output has been accompanied by a rise in the technical standards of the machinery and equipment produced, which has contributed to a constant growth in the productivity of labor in all branches of the national economy of the socialist countries.

The socialist countries have made impressive strides in the technology of the machine-building industry as well.

The rapid development of machine building and metalworking has led to an increase in the number of workers, employees and engineering-technical personnel in this industry. Yet the high rate of growth of machine-building output has not been chiefly attained because of an
increase in the number of employed but largely due
higher productivity of labor.

The principal trends in the development of machi
building in the socialist countries discussed above
as follows: the more rapid rate of growth of this b
as compared with the industry as a whole, a greate
share of machine building in total industrial produc
higher technical standards of machine-building outp
an accelerated development of those branches of ma
building which determine the technical progress of
try and the technical level of machine building itsel
All these indicate that machine building in the socia
countries has been developing in accordance with th
tasks set in mastering and introducing new techniqu
all branches of the national economy and providing
latter with the most efficient machines, equipment,
paratus and instruments, in accordance with the tas
accelerated development of integrated mechanizatio
automation.

The machine building of the socialist countries is
veloping on the basis of the constant expansion of th
economic and scientific-technical collaboration. Th
successes of these countries in machine building, b
ly outlined above, are due to their constant mutual a
ance in highly diversified forms.

The growing volume of machine-building output in
socialist countries and the developing international
cialist division of labor have been accompanied by t
expansion of reciprocal exchange of machine-buildi
goods among the socialist countries through the cha
of foreign trade. From 1950 to 1957 foreign trade i
machine-building products (exclusive of consumer g
increased by approximately 2.5 times in all CEMA
tries.

The share of exported machine-building goods in
total machine-building output of the People's Democ
cies has been steadily growing due to the developme
the international socialist division of labor.

As a result of the growing exports of machinery a
equipment, the latter's share in all the exports of e
country is increasing. Thus, the share of machine-
ing exports in Poland's total exports increased fro
7.8% in 1950 to 20% in 1957, and in the USSR's expo
from 11.8% to 14.9% respectively; in the GDR the sh
of machine-building exports in the Republic's total
ports reached 52% in 1958.

Along with the reciprocal deliveries of the CEMA
countries, a considerable portion of their machine-
ing exports consists of deliveries to the People's R
lic of China and other socialist countries of Asia.
planning the level of machine-building production, t
CEMA countries provide for adequate deliveries of
goods to the People's Democracies of Asia. The sh
of these countries in the machine-building exports
European socialist countries increases each year.
chine-building deliveries to the People's Republic
China have been expanding especially rapidly. Und
conditions created by the capitalist countries in ref
to sell major industrial goods to China, the world s
cialist market has become the principal and someti
the sole source of these imports for the PRC.

The Soviet Union and the European People's Dem
cies are delivering sets of equipment for the princi
branches of Chinese heavy industry: iron and stee
machine-building and chemical plants, oil refinerie
power stations, mines, pits, ore-dressing enterpris
as well as some enterprises of the light industry.

so of great importance for the development of the na- l economy of many countries of the socialist camp the deliveries of sets of equipment from Czechoslo- a, the GDR, Poland and Hungary.

or have the imports of machinery and equipment been nded only by those socialist countries which inherited ward economies from the past and proceeded to the tion of their own industries only in the years of peo- s rule. As a result of the developing international so- st division of labor, machine-building imports have been expanded by industrially developed socialist tries. Thus, the deliveries of machinery and equip- t to the USSR trebled between 1950 and 1957 and to choslovakia they increased by 3.6 times within the e period.

s the world socialist economic system develops and s strength, the coordination of long-range plans for development of machine building acquires ever great- ignificance for the cooperation of the socialist coun- s in this field.

the early years following the war, the European Peo- s Democracies developed their machine building fly to satisfy their own needs for machinery and pment and with due regard for the already existing omic ties with other countries. In this period there e cases of overlapping in the development of kindred ches of machine building in various socialist coun- s without due allowance being made for expedient spe- zation of production. Machinery and equipment lar in purpose and basic operating parameters were ufactured at different technical-economic levels in European People's Democracies.

exceptional importance in the solution of practical lems of economic, scientific and technical collabora- was the establishment of the Council of Economic ual Assistance in January, 1949, with a view to co- nating the national economic plans, arranging for the ange of economic experience and achievements in nce and engineering, and rendering technical assist- and reciprocal aid through deliveries of raw mate- , foodstuffs, machinery, equipment, etc.

the first years of the activities of the CEMA, the c forms of collaboration among the socialist coun- s in the development of machine building were the ange of experience in manufacturing similar ma- ery and equipment through passing on technical spe- ations, sending specialists and leading workers on sions, etc., as well as organizing and expanding trade achine-building goods among the CEMA countries.

ne subsequent years called for a higher form of col- ration: the division of labor in the production of ma- machine-building goods through international spe- zation and cooperation as well as the coordination of s for scientific research, designing, construction and rimentation.

ne prerequisites for the transition of the socialist tries to this higher form of collaboration in ma- e building were the successes in the development of hine building in the socialist countries and the re- ng possibilities arising in these countries for par- ation in the international socialist division of labor, ell as the technical-economic expediency of interna- l specialization and cooperation in machine building the coordination of scientific research, construction designing. This was primarily caused by the growth erial production and the resulting possibility of using e advanced technology and organization of production.

The new stage in the development of collaboration called for improved organizational forms of the CEMA's activities. In 1956, within the framework of the CEMA, Permanent Branch Committees representing all principal branches of industry were set up, including the Permanent Committee for Economic and Scientific-Technical Collaboration in Machine Building.

The activities of the Committee for Machine Building centers above all on the problems of long-range development of various branches of machine building. The Committee focuses its attention on the problems of international specialization and cooperation of production as well as the coordination of scientific research, construction, designing and experimentation, i.e., the key problems of the international socialist division of labor.

A large-scale international socialist division of labor in machine building was launched by the recommendations of the seventh session of the CEMA held in 1956.

The seventh session of the CEMA recommended that the CEMA countries base their plans for the development of the machine-building industry for 1956-1960 on the level of production of the principal types of machinery, equipment and instruments, coordinated by the Committee for 1960. The seventh session also approved the proposals submitted by the Committee for the specialization of production of the principal types of machinery and equipment in the CEMA countries.

The recommendations for the specialization of production provided for the elimination of shortages and, for some types of production, the elimination and prevention of unjustified overlapping the production of equipment of the same type in several countries, the increasing of serial production of machinery and equipment by two or three times in certain cases, the expansion of mutual deliveries of equipment by the CEMA countries and other measures. The recommendations on the specialization of production cover the following principal types of machinery, equipment and instruments: power equipment, diesels, electro-technical equipment, electro-vacuum instruments, metal-cutting machine-tools, forging and pressing equipment, rolling mills, casting equipment, mining and hoisting machines, equipment for the coal and oil industries, the chemical industry, the building materials industry, the light and food industries, road-construction equipment, agricultural machinery, railway rolling stock, motor cars, ships, hoisting and transport equipment. The seventh session of the CEMA determined the nomenclature of machinery and equipment which was to take precedence in the specialization of production.

Thus, the recommendations of the seventh session of the CEMA were the basis for the practical solution of all specific problems of specialization and cooperation in the machine-building production of the CEMA countries.

The subsequent sessions of the CEMA discussed and approved, among other subjects, the recommendations on the specialization of production of individual types of machinery and equipment for the purpose of developing and extending specialization as recommended by the seventh session of the CEMA. As a result, overlapping in the duction of similar types of machine-building products in the CEMA countries is being gradually eliminated.

The 11th session of the CEMA which was held in Tirana in May, 1959, approved the recommendations on the specialization of the production of mining and rolling equipment, machine tools for the ball-bearing industry, as well as oil-extracting and loading machinery.

The session resolved to foster specialization in the production of certain types of machine building in certain CEMA countries, which creates more favorable conditions for increasing the productivity of labor and bringing down production costs in machine building, as well as for mutual exchange of specialized production. Thus, it was planned to produce low-power rolling mills chiefly in the GDR and Poland, and heavy-duty mills chiefly in the USSR and Czechoslovakia, drawing mills mainly in Hungary and the GDR, boring mills and equipment for oil-processing and oil-chemical enterprises in Rumania and the USSR, multi-bucket excavators for open excavation in the GDR and Czechoslovakia and one-bucket types in the USSR.

The recommendations worked out on specialization and cooperation in the production of the above-listed types of equipment cover a considerable portion of this equipment manufactured at present. Thus, the plan for specialization in the production of rolling equipment includes 54 types of rolling mills which account for 80% to 85% of the output of rolling equipment.

As a rule, specialization reduces the number of types of duplicated equipment and increases the number of advanced kinds of equipment. Thus, the recommended nomenclature of advanced machine tools for manufacturing roller ball bearings included 117 units, while 227 machine tools were manufactured or to be manufactured prior to specialization. The nomenclature of loading machines was cut by 30% after specialization, etc.

Taking into account the accelerated rate of development of the chemical industry planned by the CEMA countries and the resulting need of these countries for chemical equipment, the 12th session of the CEMA held in Sofia in December, 1959, discussed and approved recommendations on specialization in the production of chemical equipment in the CEMA countries.

As mentioned above, it is the Permanent Committee for Economic and Scientific-Technical Collaboration in Machine Building that has been conducting the principal work in preparing the recommendations on the specialization and cooperation of production and the coordination of the plans for scientific research, construction and designing in the machine-building industry. In addition, the Committee is preparing recommendations on the standardization, unification and normalization of products as well as on metal saving in machine building.

From 1956 to 1959 the Committee did a great deal in all these fields. In the coordination of the plans for scientific research, construction and designing, the Committee examined more than 6,300 subjects, and, with a view to eliminating excessive overlapping, it recommended the exclusion of about 900 items from the plans of the CEMA countries, which made it possible to effect considerable economies in the efforts of scientific and engineering personnel, and to accelerate the solution of major technical problems. Simultaneously, the Committee recommended that the plans of work of the CEMA countries incorporate an additional 160 scientific and designing projects aimed at the creation of new high-efficiency types of machinery and equipment.

The fulfillment of the recommendations adopted by the Committee on the coordination of the plans of work will yield a saving of 1,300,000 man-hours in the production of steam boilers and turbines, 2,400,000 man-hours in rolling equipment, 320,000 man-hours in hoisting and transport equipment, 850,000 man-hours in construction and road machinery and 2,100,000 man-hours in instrument making.

As for standardization, unification and normalizati
rational standard ranges of some groups of machiner
and equipment have been worked out, which has made
possible to reduce the number of types and sizes con
siderably. The number of types and sizes of equipm
for underground coal mining was cut to 1/4 of the fo
amount, equipment for the cement industry by 41% a
machine-tool building by 25%.

Other specifications that have been worked out inc
the preferable range of steam parameters and standa
capacities for condensation turbine units, a standard
tem of measurement in testing diesels, type ranges
electric motors with capacities from 0.6 to 100 kw.,
ceiving-amplifying valves and radio parts. Input and
put ratings and the assembly dimensions of general-
pose industrial control instruments have been unifie
Technical recommendations have been worked out fo
manufacturing weather-proof machinery, equipment
instruments. Joint tests were arranged for certain
cultural machines and the methods of these tests unif

As for saving ferrous and non-ferrous metals, the
Committee worked out the nomenclature of lightened
rolled and bent shapes in order to make wider use of
them in machine building. Unified assortments of th
shapes have been listed and recommended to the org
zations engaged in standardization for the purpose of
corporating them in national standards.

The Committee worked out a number of recommen
tions aimed at saving copper, lead, and other scarce
ferrous metals by employing substitutes, especially
the production of electric motors, transformers and
cables.

The work done by the Committee on the standardiz
tion, unification and normalization of individual types
machine-building products and coordination of the pl
for scientific research, construction and designing m
it possible to proceed to a more thorough solution of
problems of specialization and cooperation in the pro
duction of major types of machinery and instruments

The Committee worked out recommendations for
intensive specialization in the production of the follo
groups of machines, equipment and instruments: oil
extracting, technological and chemical equipment, ro
loading and coal-loading machinery, rolling equipme
earth-digging machinery, mining machinery, technol
cal batteries for canning, modern types of machine t
for the production of ball bearings, equipment for the
sugar-refining industry, abattoires, meat-processing
fowl-processing industries, machinery and equipmen
for the paper industry, electrical medical instrumen
and apparatus, optical-mechanical and optical instru
ments. Before long, recommendations will be prepa
for specialization in still other groups of machinery
equipment.

Complying with the recommendations for the spec
zation of production adopted at the regular CEMA se
sions, several European People's Democracies have
ready specialized in the production of certain items
machinery and equipment, the share of which in t
structure of their machine building is quite consid
able.

In Bulgaria, for example, great headway has been
made in the production of certain types of electro-te
nical equipment, ships and agricultural machinery,
of which are exported; in Hungary in the low-curren
dustry and instrument making; in the GDR in the pro
tion of rolling, cement, chemical, metal-working and

:ing equipment as well as ships, precision instru- : making and optics; in Czechoslovakia in the produc- of metal-cutting machine tools, forging and pressing, ng and power-generating equipment, equipment for r refineries, and diesels; in Poland in the production ilway rolling stock, ships, certain types of heavy hinery and machine tools, equipment for the electrical elevision industries, the automobile industry and concrete plants, and in Rumania in the production of xtracting equipment and agricultural machinery.

rrying out the recommendations of the ninth and the th sessions of the CEMA concerning the coordination ng-range plans for the development of machine build- the CEMA countries are developing and extending ialization in this industry.

considerable significance in the development of col- ration among the socialist countries in machine build- as well as in other branches of the national economy, he bilateral committees for scientific-technical collaboration set up on the recommendations of the CEMA.

Thus, the collaboration of the socialist countries in the development of the machine-building industry has now become extensive and man-faceted.

The accelerated pace of development of machine building in the socialist countries has made it possible to create the material prerequisites for the comprehensive mechanization and automation of production, as well as for the industrialization of construction. The machine-building industry of the socialist countries is a firm basis for the further rapid growth of all branches of the national economy and consequently for a steady rise in the welfare of the working people. Now that the socialist countries are faced with new grandiose plans for a further advance of their national economies, it is even more essential to perfect the forms and methods of economic collaboration among them and to ensure reliable coordination in the development of the interconnected branches of the national economy on the basis of each country's long-range plans.

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(Continued From Page 24)

rove their qualifications and assign them to work on cting technical innovations to be introduced into the onal economy.

Technical Information

he problem of raising the qualifications and knowledge pecialists is essentially one of collecting and proc- ng information on the achievements in new technology, anizing reports, lectures, seminars, courses and ools on particular problems involved in the introduc- of new technology. These jobs are now being done ugh institutes and bureaus of technical information, ntific and technical publishing houses, technical clubs to some extent, through higher educational institu- s and scientific and technical societies. Institutes of nical information and technical clubs are relatively in this field.

he main task of the institutes and bureaus of technical rmation is the timely collection of information on ything new in the technology and economics of pro- ion, both in domestic and foreign practice, and the al selection of technical news that deserves attention. itutes and bureaus of information must, in addition, vide timely informational materials to speed up work cientific and technical centers and designing organiza- s, thus avoiding duplication of effort. As we know, ntific knowledge is the most permanent and valuable vledge for society. Therefore, the accumulation of knowledge is an extremely effective and important ertaking for society, and the creation of special insti- s to select new knowledge for practical application forward step in the field of production organization.

The tasks of the technical clubs are different from those of the institutes and bureaus of technical information. Their role consists in rapidly bringing newly collected and selected technical information to the attention of broad circles of specialists and in systematically raising the qualifications of specialists. As presently constituted, the technical clubs are practically polytechnical institutes working to increase the knowledge of specialists who already have higher education. The work of these institutes is still far from systematic and they are handling too wide a range of specializations. Clearly, we are here seeing a repetition of the history of creating the network of primary higher educational institutions of former years. Not long ago the initial preparation of specialists with higher technical education was conducted mainly in polytechnical institutes such as, for example, the Leningrad, Kiev and Kharkov institutes and others. Specialization in the field of training cadres with a higher education led to the creation of higher educational institutions with a rather narrow scope. We must expect that the technical clubs will gradually become more specialized. In any event, the development of these technical clubs should be regarded as an extremely necessary measure for rapid technical progress. Their role in the country's public life will undoubtedly rapidly expand.

The scientific and technical societies have an important role to play in the field of technical information. In addition to handling many other important tasks, it is their duty to collect, generalize, and disseminate the advanced experience of enterprises. The Congress of Scientific and Technical Societies of the USSR, held in October, 1959, showed that their role in technical progress will increase rapidly.

Voprosy Ekonomiki, No. 2,

F. Bystrov:

The Organization of International Settlements Among the Socialist Countries

The coexistence of the two world economic systems, the socialist and the capitalist, developing under different laws and in opposite directions, determines the simultaneous existence of two parallel world markets as well, the socialist and the capitalist, also developing on totally different foundations.

Currency and payments relations among the socialist countries follow from the commercial and other economic relations in the world socialist market, relations which differ in principle from those in the world capitalist market. Economic relations among the countries of the socialist camp reflect their mutual assistance and cooperation, and are characterized by genuine equality of these countries and mutual respect for national independence and sovereignty. The various forms of economic relations among the socialist countries are based to an increasing degree on close coordination of economic development programs and on cooperation and specialization in production.

The volume of trade among the socialist countries is growing uninterruptedly on the basis of their steadily rising production and living standards, as well as the further development of the international socialist division of labor. Following bilateral negotiations between the member countries of the Council of Mutual Economic Assistance on reciprocal deliveries of basic commodities in the period 1959-1965, it has been decided to increase trade turnover by approximately 70% as compared with 1958.

As trade and other forms of economic cooperation among the socialist countries expand, problems relating to the organization of settlements among them acquire increasing importance. International settlements among the socialist countries differ in principle and substance from those among the capitalist countries. This difference stems from the very essence of the economic system of the socialist countries and their economic relations, namely, that socialist production relations, founded on social ownership of the means of production, predominate in these countries.

International settlements among the capitalist countries are extremely unstable, especially at the present stage, when the contradictions inherent in capitalism have become exceptionally acute. This is reflected in the sharp and constantly recurring fluctuations in rates of exchange, the drop in the purchasing power of currencies as inflation develops, the instability of balances of payments, and the "currency war" that inevitably arises among capitalist countries. These contradictions and failings, inherent in the capitalist system, do not exist in the relations among the socialist countries, whose international settlements rest on a firm, stable foundation — a planned socialist economy.

Since they develop on the basis of long-term trade and
other economic agreements, the payment relations a
the countries of the socialist camp can be planned nc
for a year ahead but, in general outline, for a numbe
years ahead. This is an important factor ensuring tl
planned nature of the foreign trade and other forms
economic cooperation among the socialist countries.

Depending upon the nature and specific features of
various forms of foreign economic relations, interna
al settlements among the countries of the socialist c
can be divided into: (a) international payments on cu
rent trade, that is, for the export and import of com
ties and also for trade; (b) international payments or
credits and loans; (c) international payments on non-
commercial transactions.

The present article examines the basic problems
nected chiefly with trade settlements among the soci
countries.

The system of international settlements among the
cialist countries is designed to stimulate the rapid d
velopment of foreign trade and other forms of econo
relations among these countries and ensure timely a
uninterrupted payment for commodities and other op
tions.

Settlements among the socialist countries are ma
rubles. The ruble, containing 0.222168 grams of pu
gold, is the currency of international settlements in
world socialist market. The purchasing power of th
ruble in relations among the socialist countries cor
sponds to the purchasing power in the world market
the same amount of gold as is contained in the ruble

Inter-governmental agreements on trade and payn
as well as credit agreements and agreements on no
commercial payments, are concluded in rubles. Pr
of commodities and payment for them are likewise
tablished in rubles in the contracts concluded betwe
foreign trade organizations of the socialist countrie
Settlements between the central banks of these coun
are also carried out in rubles. In the international
over of the socialist countries the ruble is not only
measure of the value of commodities and services a
means of currency settlements, but is also a means
purchase and in some cases of payment. The growt
trade and the expansion of other types of economic
tions among the socialist countries are steadily enh
the role of the ruble as an international currency.

Inasmuch as all elements of trade settlements an
the socialist countries are expressed in rubles, the
lem of the exchange rate of the ruble in relation to
currencies does not arise in these settlements. Fo
ample, payments after foreign trade organizations
their contracts, which are expressed in rubles, are
through a clearing account which is also in rubles.
ruble exchange rate is used in converting the price
commodities obtaining in the world markets in vari

encies into prices expressed in rubles. This conver-
is done according to an official rate based on the
content of the ruble and other currencies.

e ruble exchange rate is also used in domestic ex-
-import settlements between the central banks of the
le's Democracies, on the one hand, and the foreign
e organizations of those countries, on the other.

e settlements are made according to the official rate
e ruble in relation to the currencies of the People's
ocracies.

e of the major elements of foreign trade and interna-
l settlements is the fixing of export and import com-
ty prices.

ade among the socialist countries is based on fair
stable prices for the commodities that enter into the
procal deliveries. These prices are determined by
ement; they are based on the prices of the respective
modities in the world markets and remain stable over
periods. Prices in the world capitalist market are
ransferred automatically to the commerce among the
list countries. There are constant and sharp price
uations of a speculative nature in the capitalist mar-
They are caused by inflationary factors of a mili-
nature, the building up of stocks of strategic materi-
and the creation of an artificial supply or demand.
price fluctuations due to the failings of the capitalist
omy are not reflected in the trade relations among
ocialist countries. Stable prices are maintained in
commerce, and this contributes to the planned de-
ment of their business relations.

like the capitalist market, where different prices for
ame commodity exist simultaneously, trade among
ocialist countries is based, as a rule, on a single
e for a definite commodity. Certain differences in
es for the same commodity are connected, in the
, with transportation costs and differences in quality.

ese principles of price fixing provide a firm basis
ich foreign trade among the socialist countries can
anned and are the foundation for the stability of the
hasing power of the ruble as the currency of interna-
l settlements.

earing is the form of settling accounts used by the
list countries. It corresponds in the highest degree
e nature of the economic relations among these coun-
and correctly reflects their trade and other rela-
in the sphere of payments. Clearing is also used in
ements between capitalist countries, but under the
tions in the world socialist market its meaning is
mentally different. In the capitalist world this form
ttlement reflects the dislocation of currency rela-
between countries, the sharpening of contradictions
g them, and is engendered primarily by currency re-
tions. The socialist countries employ this form of
national settlements but they have basically changed
ontent. It is an important instrument for the planned
dination of the development of their national econo-
and foreign trade.

country possessing rubles on a clearing account may
hem in the following ways: (a) to pay for commodi-
rom a country which is indebted to it on the clearing
nt; (b) to transfer sums to the clearing account of a
country, that is, to pay rubles for commodities re-
d from the third country (such an operation can be
rmed by agreement among the creditor country, the
r country and the third country); (c) to transfer sums
multilateral clearing account (this requires the agree-
of both the creditor country and the debtor country); a sum transferred to a multilateral clearing account may be used to purchase commodities in any other country belonging to that clearing system; (d) to obtain local currency of the debtor country required to cover expenditures made by the creditor country on the territory of the debtor country, for example, to pay for non-commercial operations in the currency of the country where the expenditures are made; (e) to grant a credit to a debtor country or a third country (with the agreement of the corresponding countries).

Because of the difference between trade relations and other types of economic relations the socialist countries employ two types of clearing accounts: for trade and for non-commercial operations.

The major share of international settlements are made through trade clearing accounts opened at central banks. They reflect payments for exports and imports of commodities, comprehensive deliveries, technical assistance, transportation and other operations connected with foreign trade, and balance receipts and payments on these operations for a certain definite period.

Trade agreements between the socialist countries provide for equality of reciprocal commodity deliveries (with account taken of payments made on other operations) during the course of each year. Receipts and payments on the clearing accounts must balance for a year's period taken as a whole. To balance transactions with each other and clear them over a shorter period is not expedient, inasmuch as it may not be possible to clear reciprocal commodity deliveries in individual months of the year owing to seasonal production or other conditions leading to larger deliveries by one country than by another. To facilitate the clearing of commodity delivery accounts, definite limits are set on the indebtedness permitted in the clearing accounts in order that the indebtedness can be cleared off by the end of the given year. The limits are fixed by agreement, depending upon the volume of trade between the respective countries (the greater the trade turnover, the higher the limit of mutual credit on the clearing, other conditions being equal) and also upon seasonal and other factors determining different dates for the delivery of commodities during the course of the year.

There may be certain uncleared sums on the clearing account by the end of the year, chiefly in cases where the volume of commodity deliveries is changed by agreement between the parties during the course of the given year. Settlement of the liabilities registered on the clearing accounts at the end of the year is effected through deliveries of specified commodities by the debtor country during the first quarter of the following year in payment of the indebtedness as of the end of the previous year, or by carrying over the indebtedness to the clearing account of the next year.

At present the socialist countries usually employ the second method as the most expedient and not requiring the allocation of definite commodities expressly for the purpose of settling the indebtedness registered at the end of the year. In this case the trade turnover plans for the following year provide that the value of the deliveries by the given country exceeds, by the sum of the indebtedness, the value of the deliveries by the other country, in whose favor the indebtedness of the previous year's clearing account was formed.

Interest is usually charged on the liability at a rate agreed upon by the countries concerned. It should be noted that the interest charged in settlements among the socialist countries differs fundamentally from the interest charged in settlements among the capitalist countries, where it is a part of surplus value and takes the form of the price of loan capital.

The charging of interest in settlements among the socialist countries is determined by the fact that the country granting a credit turns over to the other country material resources, the equivalent of which the creditor country will get back only after a certain period. Hence, the creditor country removes from its national economy material values which it could have used itself in the process of reproduction and thereby increased the sum total of its social product. On the other hand, the debtor country receives, through the credit, additional resources with the help of which it increases production and creates new material values. A part of these new values is transferred to the creditor country in the form of interest. Interest also serves as a means of stimulating the productive use of the resources granted through the credit. Interest is charged only on the sum of the credit that has actually been used and has not yet been repaid.

The rate of interest in settlements among the socialist countries is fixed at a favorable level, amounting, as a rule, to 2% per annum. The basic rate of interest on credits and loans in the capitalist countries ranges from 4% to 6% per annum and higher, and in actual practice is often raised still higher by various commission charges, the jacking up of prices on commodities delivered on credit, etc. Such concealed elements of higher interest rates are non-existent in the credit relations among socialist countries.

Clearing accounts, as we have noted above, reflect the movement of commodity values in foreign circulation. However, the balance of payments on the clearing account does not fully reflect the state of reciprocal commodity deliveries, for there are always commodities not yet paid for, both in export and in import. In some cases the payment is made before the commodities are delivered, and in others vice versa. In the early postwar years, when the system of settlements among the foreign trade organizations of the socialist countries had not yet been perfected, payments lagged greatly behind the deliveries of commodities. At present the difference between the balance of payments on the clearing accounts and the state of commodity deliveries has been reduced to a minimum, thanks to the strengthening of financial discipline by the foreign trade organizations and to rationalization of the system of settlements (particularly after the introduction of the encashment form with immediate payment). Now the clearing accounts reflect in time the movement of commodity and material values among the countries of the socialist camp. It should be noted that the currency turnover on the settlements over any specific period will always be larger than the sum of the reciprocal commodity deliveries, since payments for technical assistance, for the shipment of commodities, in connection with claims and on the balance of non-commercial settlements go through the trade clearing accounts in addition to the payments of commodity deliveries.

The form of settlements now employed in the relations between the foreign trade organizations of the socialist countries — encashment with immediate payment — provides for bringing the moment of payment as close as possible to the moment of the delivery of commodities. Under the system now in force, payment to the exporter for the commodities it supplies is made by the bank of the exporter country immediately on receipt of the invoices. The exporter bears full responsibility for the confor of the invoices and the data therein to the terms of t contract. Simultaneously with putting through the pa ment to the exporter the bank writes off the appropr sum from the clearing account of the bank of the importer country and sends that bank the invoices rece from the exporter. Upon receiving the notification f the bank of the exporter country and the invoices, th bank of the importer country enters the correspondi sum in the clearing account to the credit of the bank the exporter country, writing it off the account of the importer.

To safeguard the interests of the importer he is g the right to demand, under certain circumstances an within 14 days following receipt of the invoices by hi country's bank, the return of part or the whole of the paid to the exporter. This may happen, in particular cases where the exporter has violated the contract i course of the dispatch of the commodities, when the voices do not conform to the specifications of the dispatched commodities, when dispatched equipment is complete although the contract provides for payment complete equipment, or when the exporter has incor ly indicated the prices of commodities or the sum of payment.

This form of settlement presupposes a high degre confidence between exporter and importer. It can be applied only in dealings between foreign trade organi tions of the socialist countries and is not suitable fo settlements with firms in the capitalist countries. It sures the exporter immediate payment for the comm ties dispatched while at the same time giving the importer the right to demand return of the payment if t exporter has violated the contract during dispatch of commodities. It should be noted that violations of th kind are extremely rare in the transactions of the fo trade organizations of the socialist countries.

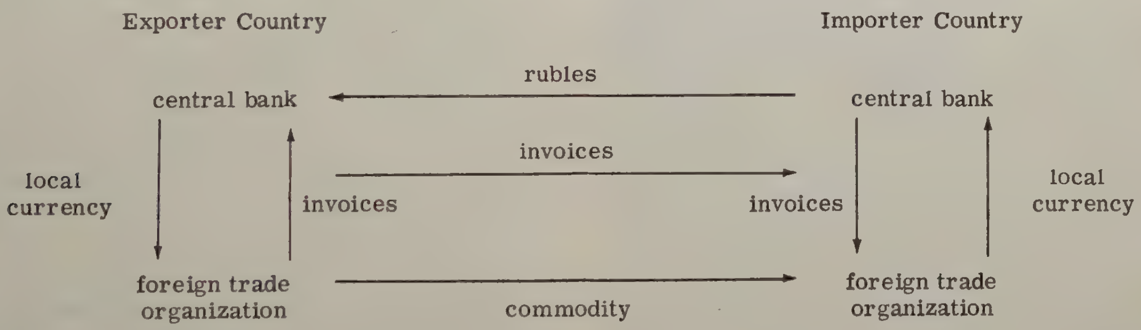
In the world capitalist market commercial credit tensively employed, particularly in the sale of machi and equipment, owing to the mounting sales difficulti and the growing competition among firms and countr In the relations between the foreign trade organizati of the socialist countries there is no need for comm cial credit or for advance payment on account of futu commodity deliveries. The system of internal finan and advancing of credit in all the socialist countries enables them to pay for imports and to produce com ties for export.

A great advantage of the system of settlements tha has taken shape among the socialist countries is tha there is no need to create reserves of foreign excha for reciprocal payments; hence, the countries do not to sell commodities only in order to accumulate a fo eign exchange reserve. The trade agreements whic socialist countries conclude among themselves spec the assortment of commodities and the volume of reciprocal deliveries. These agreements are fulfilled the process of carrying out the national economic pl The use of the clearing system guarantees that payn for commodities delivered will be made on time. P ment to export organizations is made by the banks r gardless of the state of the clearing accounts. Shou there be insufficient funds on the account of the bank the importer country and payment for the commodit by the bank of the exporter country leaves the impor country indebted to the exporter country, the debt is covered by subsequent commodity deliveries by the

or country in accordance with the commodity quotas
ulated in the trade agreements.
one of the difficulties and contradictions inherent in
capitalist system of production arise when commodi-
are converted into currency (rubles) in the trade
ng the socialist countries. Concrete obligations con-
ning reciprocal commodity deliveries ensure the sale
ne commodities. Payment for the export commodities
ed in these obligations is in rubles, and the same ru-
are used in paying for import commodities.
should be noted that the capitalist countries are com-
ed to maintain considerable foreign exchange reserves
ollars and pounds sterling. Total reserves on the ac-
ts of the capitalist countries (except the United States
England) in New York and London now amount to about
illion dollars, which is equal to approximately 40% of
annual volume of exports of those countries. To all
nts and purposes those countries provide the United
es and Britain with permanent credits since a consid-
ble part of their export receipts are immobilized.
eover, the countries with pound and dollar reserves
tremendous sums through the devaluation of these
rencies when prices rise, bringing about a corre-
ding fall in the purchasing power of the pound and the
ar.
ne system of trade settlements among the socialist
tries includes: (1) settlements between central banks
learing accounts (foreign settlements, made only in
es); (2) settlements between the central bank and
ign trade organizations of the given country (internal
lements, made in the currency of the given country
connected with the clearing settlements in rubles).
e have already examined the first type. Settlements between foreign trade organizations and banks within the socialist countries are made by converting the rubles in the clearing accounts into local currency (in export transactions) or, on the contrary, by converting local currency into rubles on the clearing accounts (in import transactions). These conversions are made according to the official rates of exchange. For example, a Rumanian import organization has purchased commodities valued at 3 million rubles from a Bulgarian export organization. This sum will be entered in the Bulgarian-Rumanian clearing account to the credit of Bulgaria, while the Bulgarian export organization will receive leva from the People's Bank at the rate of 100 leva to 58 rubles 82 kopeks. The Rumanian State Bank will receive from the Rumanian import organization the equivalent of the 3 million rubles (entered in the Bulgarian-Rumanian clearing to the credit of Bulgaria) in lei at the rate of 100 lei to 66 rubles 67 kopeks. Thus, the currencies of the People's Democracies are not used directly in foreign settlements. They are used in settlements between the central banks and foreign trade organizations of the given country, that is, in domestic settlements connected with foreign settlements. Hence, it follows that any change in the exchange rate of the currency of any of the People's Democracies in relation to the ruble does not affect their foreign settlements with the other socialist countries. But changes in the rate of exchange are reflected in the settlements between the central bank and the foreign trade organizations of the given country.

The following chart will illustrate the system of settlements among the foreign trade organizations of the socialist countries:

***



rrency risks constantly arise in trade with the capi-
t countries, due chiefly to the possibility of devalua-
or changes in the purchasing power of their curren-
. If, for example, during fulfillment of a contract
a capitalist firm the exchange rate of the currency
hich the contract was concluded falls, the exporter
s and the importer gains. The exporter country also
s when the rate remains unchanged but the purchasing
er of the currency drops, because commodity prices
e capitalist market have gone up. Moreover, the pos-
ity that the debtor firm may go bankrupt creates
ional risks in credit relations with capitalist countries.
ere can be no currency risks at all in relations among
socialist countries. The ruble, the currency in which
ements are made, has a definite gold content and
no danger of being spontaneously devalued. The
es of export and import commodities expressed in
es remain stable for long periods of time.
lateral clearings are used for the vast majority of
nternational trade settlements among the socialist countries. This is because the major share of their commerce is carried out under bilateral trade agreements. Multilateral settlements are used as a supplement to the bilateral clearings. In multilateral settlements there is no need to balance the value of the reciprocal commodity deliveries between two countries. It is enough to ensure that a country's export and import transactions with all the other countries participating in the multilateral system are equal. Multilateral settlements allow the volume of trade to be extended beyond the possibilities offered by bilateral trade agreements.

The current multilateral clearings agreement concluded among the member countries of the Council of Mutual Economic Assistance is aimed at further increasing trade between them. Under the agreement each country may offer any other member country any commodities with payment under the multilateral clearing system. Besides, by mutual agreement the amounts by which the annual bilateral trade agreements do not

(Continued on Page 64)

Planovoe Khoziaistvo — No. 12,

A. Bedishchev:

Siberia - A Major Economic-Geographical Area of the USSR

The decisions of the 21st CPSU Congress point out that "the singling out of major economic-geographical areas in planning makes for correct geographical distribution and the most rational territorial organization of the Soviet Union's national economy." The singling out of these areas makes it possible to solve long-range economic development problems and, in particular, the problems of industrial specialization and cooperation, which in many cases cannot be solved within the framework of individual economic administrative areas.

The main changes in the distribution of productive forces in the present Seven-Year Plan are directed primarily towards accelerating the economic development of the eastern areas. Over 40% of the total volume of capital investments is earmarked for the economic development of the eastern areas, including the Urals, Siberia, the Far East, Kazakhstan and Central Asia. In our opinion the objective conditions have already been created for revising the existing system of economic zoning of the eastern areas, primarily Siberia.

Up till now, the territory lying between the Urals and the mountain ranges of the Pacific watershed was divided into two large economic-geographical areas — Western Siberia and Eastern Siberia. This division was based in the main on physical-geographical distinctions and the peculiarities of the historical development of Siberia. The Great West Siberian lowland, more accessible for settlement and economic development, embarked earlier on the road of industrial and agricultural development. The extensive Middle Siberian plateau, lying beyond the Yenisei River and noted for its severe climate and limited possibilities in agriculture, was involved in economic activity much later.

Application of the natural-historical principles to the zoning of Siberia under conditions marked by inadequate development of productive forces, when economic factors could not yet play the decisive role in the zoning of this vast territory, was correct. At present, the situation has changed radically: the development of productive forces both in Western and Eastern Siberia is characterized by a sharp upsurge. New factors have appeared in economic zoning which require a new approach to the problem.

In the four years of the Second World War, when industrial production in the country as a whole showed some decline, the volume of industrial production in Siberia increased by 180%. During the Fifth Five-Year Plan capital investments in Siberia were 120% above the previous Five-Year Plan, the average increase in capital investments for the Soviet Union as a whole being 90%. Compared with 1940, gross industrial output in 1957 increased by 6.3 times in Western Siberia and 4.1 times in Eastern Siberia, with national industrial output rising 3.9 times. Consequently, the rate of growth of capital investments and industrial output in Siberia was higher than the average indices for the country as a whole.

Power engineering, metallurgical and chemical industries are rapidly developing in Siberia. The newly-created industries include oil-refining, aluminum and machine building. New agricultural areas have appeared; there are
thousands of kilometers of new communications — rai
and air lines, motor roads, river routes and pipelines

One of the characteristic features of Siberia is the
growth of its population. According to the 1959 censu
the past 33 years (1926-1959) the population of Siberia
creased from 9.7 million to 19.2 million, or 2.1 times
share of Siberia in the total population of the USSR ro
from 6% in 1926 to 9% in 1959. Between 1940 and 195
number of industrial workers in Western Siberia incr
by 122% and in Eastern Siberia by 165%, compared wi
55% increase for the country as a whole. In the postw
years dozens of new towns and hundreds of modern in
trial townships have appeared on the map of Siberia.

Under the Seven-Year Plan (1959-1965) for the econ
development of the USSR over-all capital investments
increase by 80%, compared with the previous seven-y
period; in the case of Siberia capital investments will
crease by more than 100%. The Seven-Year Plan env
a 130% increase in industrial output of Western Siberi
180% for Eastern Siberia. The average rate of growth
industrial output in Siberia exceeds the national rate
100%. The share of the eastern areas in the country's
dustrial output will rise from one-fourth at the beginn
of the Seven-Year Plan to approximately one-third in
first years following its fulfillment. A new economic
raphy and a new pattern of industrial-economic relati
are in the process of development in Siberia.

At the present stage of development of the producti
forces, in our view, we should renounce the practice
singling out major economic-geographical areas of W
and Eastern Siberia as separate administrative units,
single territorial-industrial complex is now being for
in Siberia.

In recent years the rich and varied resources of Ea
Siberia have been drawn into the process of rapid ind
development. A prominent place in the economy of E
Siberia is now held by the coal-mining, power enginee
machine-building and cellulose-paper industries — th
nomic branches which form a single industrial compl
Siberia. Major all-Siberian problems of vast nationa
nificance have arisen which form the basis of a single
nomic area. Among these problems is the creation o
single power engineering system in Siberia, the estab
ment of the country's third iron and steel center, pow
consuming industries, a machine-building and forest-
try complex and the development of the transport sys
These are the chief elements in the formation of the
torial-industrial complex of Siberia, which embraces
Kemerovo, Novosibirsk, Irkutsk, Altai, Krasnoiarsk
Tomsk economic administrative areas.

Power engineering constitutes the most important
forming factor in the shaping of a single major econo
geographical area in Siberia. Siberia is distinguishe
its high concentration of power resources. Its total
and power resources reach 1,271 million tons of con
tional fuel, which amounts to 71% of the Soviet Union'
gregate fuel and power resources. (1) Siberia accou
for 76% of the total fuel resources and 54% of the tot

power resources of the country. The chief power re-
es of Siberia are concentrated in the southern area,
ing the Kuznetsk, Kansk-Achinsk and Cheremkhovo
, in the Angara area and in the upper reaches of the
ei and Ob Rivers.
of the most important peculiarities of Siberia's pow-
ources is their economic unity. An indispensable
ion for the most effective exploitation of these im-
power resources is cooperation between the hydro-
areas and the coal fields, as well as interconnections
development of the coal and lignite deposits.
distribution of coal mining is becoming more evenly
l out in Siberia. A number of new coal mines in the
-Achinsk basin, stretching for hundreds of kilometers
the Trans-Siberian Railway, are being put into opera-
etween the Kuznetsk and Cheremkhovo basins. The
s — Kansk-Achinsk coal zone represents a single
ower center of Siberia.
ne period 1959-1965 about 1 billion tons of coal will
ned in Siberia; this will cost the national economy ap-
nately 40-45 billion rubles less than the mining of
me amount of coal in the European part of the USSR.
ver, the main increase in the Kuzbas is planned in
ning of coking coals for the iron and steel industry of
a and the Urals, while the demand for power fuel will
reasingly satisfied by low-cost lignite from the Kras-
k Territory and the Irkutsk Region.
economic effect of such specialization is obvious.
Kuzbas, a ton of conventional fuel costs 63-75 rubles,
Itat brown-coal deposits — 12-15 rubles, and at the
Borodino deposits — 5-7 rubles; a kilowatt of elec-
nergy generated by the Kuzbas thermal power sta-
cost 4-5 kopeks whereas in the area of the Kansk-
sk basin it will not exceed 1-2 kopeks.
ng to the rapid development of its power engineering
ry Siberia is beginning to gain prominence as an area
n-capacity thermal power stations. Large thermal
stations are under construction at Belovo and Tom-
k in the Kuzbas, as well as at Itat, Nazarovo, Irsha
zei along the Trans-Siberian Railway. At the same
giant hydropower stations are being built. Among
already in operation are the Irkutsk hydropower sta-
60,000 kw.) — the first of a series to be erected on
gara, and the Novosibirsk hydroelectric station; the
s biggest hydropower station (capacity: 4,000,000
s being erected at Bratsk, and construction has been
d on a still more powerful hydroelectric station at
oiarsk, whose capacity will reach 5,000,000 kw.
nin seven years the construction of thermal power and
electric stations will create the necessary basis for
tablishment of a single power system in Central Si-
which will connect all the hydroelectric and thermal
stations from the Ob River to Lake Baikal.
reas the country's total power capacity will increase
twofold in the seven-year period, in Siberia it will
se by 4.1 times. The following increases are to be
ed by the largest power systems: the Krasnoiarsk —
mes, the Bratsk-Irkutsk — 5.2 times, the Novosi-
Kuzbas, including the Barnaul and Tomsk power sys-
— 2.4 times. Each power system of Siberia differs
y from the others in the structure of its power
es. For example, the share of thermal power stations
total installed capacity of the Novosibirsk-Kuzbas
system will amount in 1965 to 93.5%, in the Krasno-
— 60% and in the Bratsk-Irkutsk — 19.5% (the re-
g share of capacity is accounted for by hydraulic sta-

iew of the sharp differences in the structure of power sources in the Siberian systems, their unification within a single Siberian power system will produce a much greater effect than in any other part of the country. The hydropower stations on the Angara and Yenisei on the one hand, and the thermal power stations of the Kansk-Achinsk and Kuznetsk basins on the other, represent mutually complementary and organically linked systems. Apart from the advantages usually offered by complete power systems, their unification will also result in a vast saving of electric energy through reducing the permanent reserves of thermal power stations, amounting in Siberian conditions to more than a million kw. Between 1959 and 1965 nearly a thousand kilometers of trunk power transmission lines will be put into operation in Siberia. This will make for an even supply of electric power to all parts of this vast area.

The great amount of cheap electric power makes it possible to develop in Siberia certain industries consuming much electric energy. In the course of the seven-year period Siberia will become the main producer of aluminum and a number of other light metals. Rough estimates have shown that the aluminum industry will be consuming about 20% of the total amount of power generated in Siberia. The seven-year program provides for a twofold increase in aluminum output at the Stalinsk Works in the Kuzbas, envisages the commissioning of the Irkutsk plant and the launching of construction work on the Krasnoiarsk aluminum plant.

With the development of the aluminum industry new industrial ties are being formed between the economic administrative areas of Central Siberia not only in the common use of a power base but also stemming from the creation in Siberia of a raw material base for aluminum production Until recently the aluminum industry of Siberia was based on alumina brought from the far-off Urals. The Seven-Year Plan envisages large-scale production of alumina in Siberia. The big alumina plant now being built at Achinsk will be based on the Uzhur nepheline deposits. The cost of the Krasnoiarsk alumina will be 40% lower than in any other part of the country. It is quite probable that another alumina plant will be built in the south of Krasnoiarsk Territory. As a result, the production of aluminum in Siberia will become an economically complete process.

Siberia is becoming prominent as an area where one of the most important economic problems of the Seven-Year Plan is to be solved, namely, the establishment of the country's third iron and steel center. According to the estimates of the Metallurgical Institute of the USSR Academy of Sciences, the consumption of metal in the areas lying to the east of the Urals will increase by not less than 4.5 times in the coming years. The demand for rolled goods will reach 20 million tons. All this makes it urgently necessary to expand the local metallurgical base in the eastern areas.

In recent years fundamental changes have taken place in the estimates of the raw material base of Siberia's iron and steel industry. Rich iron-ore deposits have been found in the Krasnoiarsk Territory and the Irkutsk Region. Iron ore has also been discovered in the Kemerovo and Tomsk Regions. The newly-discovered Nizhnaia Tunguska iron-ore basin has not been properly surveyed so far. As shown by preliminary estimates, the iron-ore deposits and the possible scale of their mining in the surveyed areas alone can ensure an annual output of cast iron reaching tens of millions of tons.

The Seven-Year Plan provides for the construction of another two powerful iron and steel mills in Siberia as well as for a considerable expansion of the Kuznetsk mills. Within the next 7 or 10 years a new metallurgical base with an annual output of 15-20 million tons of pig iron will be created in Siberia.

A new geography of industrial relationships is being shaped in the iron and steel industry of Siberia. The longstanding ties between the Kuzbas and the Urals are gradually giving way to close cooperation between the Kuzbas and the adjoining areas of Eastern Siberia. The share of Siberia's ores in the charge of the blast furnaces operating at the Kuznetsk iron and steel mills increased from 5% in 1932 to 89% in 1958. Today the Kuznetsk mills receive iron ore from the mines of Gornaia Shoria and Khakassia. However, potential ore deposits in these areas are comparatively small. Hence, the steadily growing iron and steel industry of Siberia will have to extend the geographical borders of its raw material base. It is planned that in 1965 more than half of the ore will be supplied by the mines of the Irkutsk Region and the Krasnoiarsk Territory. It is quite probable that work will be started on developing the Angara-Pit basin, whose ore deposits are favorably bedded for open-cast mining.

Thus, from the point of view of the raw material base the iron ores of the Angara area and the coking coals of the Kuzbas form a single iron and steel center. The Stalinsk-Abakan-Taishet railway line, now in the process of construction, and the electrified Trans-Siberian Railway will connect these districts economically, provide two-way connections between the ore and coke areas and unite the central parts of Siberia now belonging to different economic areas into a single economic center.

Subsequent stages in metallurgical production — the output of rolled goods, pipes and hardware — will extend the borders of the metallurgical cycle, embracing an ever wider range of metalworking centers forming around the metallurgical base. In 1957 Siberia consumed 50% of all the iron and steel turned out by the Kuzbas mills. In subsequent years Siberia's share in the consumption of local metal will increase owing to the extension of its assortment, as well as to the construction of a new plant in Kazakhstan and the expansion of the iron and steel industry in the Urals.

The extensive development of cooperation between the machine-building centers possessing a common metallurgical base is leading to the gradual formation in Siberia of an internally-connected system of machine-building units and to the creation of a single machine-building complex which is playing an important part in the shaping of a major economic area in Siberia.

In the past the eastern areas did not have a powerful machine-building base; the bulk of required machinery and equipment was brought from the outlying areas of the European part of the USSR. In the coming years the eastern areas will be in a position to provide themselves with an increasing range of mechanisms and equipment, thanks to the development of the Siberian machine-building complex based on local metal.

Distinctly outlined on the economic map of Siberia is the system of large machine-building units grouped around the Kuznetsk coal-metallurgical base. The following centers are developing in close proximity to the Kuzbas: boiler-making and motor-building (Barnaul), agricultural machine-building (Rubtsovsk), machine-tool construction and turbo-engineering (Novosibirsk), electro-technical industry (Tomsk), hoisting and transport machine-building (Krasnoiarsk). Large-scale production of mining and blast-furnace equipment is rapidly developing in Irkutsk.

Under the Seven-Year Plan all the machine-building centers of Siberia will increase their output, a new plant manufacturing automatic production lines is to be built in Tomsk, the production of electric locomotives will be organized in Belovo, there will be specialized production of automobile parts and units in Novosibirsk, etc. The share of Siberia in the Soviet Union's machine-building industry will ri
considerably.

In earlier times Siberian machine-building centers
sprang into existence independently of one another; in
ern conditions they are gradually becoming links of a
machine-building chain in Siberia called upon to arm
existing and newly-appearing industries in the eastern
gions with the latest kinds of equipment. The new sys
of industrial and construction management, which is b
on the territorial principle, created favorable conditic
for developing cooperation in the machine-building inc
and stimulated the organization of specialized, mutual
complementary branches in Siberia.

The Economic Councils of the Krasnoiarsk, Kemerc
Novosibirsk, Tomsk, Altai and Omsk economic areas
worked out long-range (1959-1965) plans for developir
cialization and cooperation in the machine-building, m
lurgical and chemical industries among the economic
ministrative areas of Siberia.

These plans envisage the establishment, in close pr
imity to the metallurgical plants, of joint supply bases
the machine-building centers of Siberia as well as the
ation of an all-Siberian base for the production of mal
cast iron and refractory steels; organization of centra
production of welding electrodes, hardware, standards
multi-purpose assembly devices, taking into account t
requirements of all the economic councils functioning
Siberia; organization of all-Siberian specialized bases
the repair of power-engineering, machine-tool and oth
types of equipment.

An important condition for the development of the S
berian industrial complex is an accelerated rate of gr
in the timber industry and in the chemical processing
wood. 64% of the country's aggregate timber resourc
are concentrated in Siberia. Its reserves of mature a
overripe wood amount to 36,000 million cubic meters.
Seven-Year Plan provides for an exceptionally high ra
development in lumbering. 172 gang mills, or 43% of
total envisaged by the Seven-Year Plan, will be instal
Siberia. Five wood-processing mills are being built
Tomsk Region, six in Krasnoiarsk Territory and two
Buriat ASSR. During the seven-year period major pu
paper mills will be erected in Krasnoiarsk, Bratsk, Y
seisk and other Siberian cities. It is also planned to
several cardboard mills (at Asinsk and elsewhere).

The timber industry constitutes a most important
of specialization in Siberia, for it stimulates the deve
ment of multilateral industrial contacts among the va
ous economic administrative areas. For example, th
of the props and timber produced in the Tomsk and Ir
Regions, in the Krasnoiarsk Territory and the Buryat
— nearly 3 million cubic meters — is directed to the
bas. The Altai tractor plant supplies the Siberian tim
exploitation areas with TDT-80 skidding tractors, th
output of which will increase considerably in the seve
year period. Cooperation in the forest-chemistry ind
is developing among the Central Siberian areas. For
stance, the Kuchuk sulphate factory, now under constr
tion in the Kulunda Steppe (Altai Territory), will man
ture sodium sulphate for the pulp and paper mills of
Krasnoiarsk Territory and the Irkutsk Region, as we
for the output of caustic soda, dyes and mineral ferti
required by the leather-processing and soap-boiling
tries. The Krasnoiarsk synthetic rubber plant will u
wood alcohol supplied by hydrolysis factories operati
different parts of Siberia. The rosin-turpentine work
Barnaul is provided with gum by all the felling sites
tral Siberia. Industrial contacts in the forest-chemi

ry are growing stronger and becoming an active fac-
the formation of a single economic area in Siberia.
of the most important links in the economic complex
eria is agriculture, which develops under specific
ions obtaining in the eastern areas. Though agricul-
zoning has specific features of its own and the farm-
nes cannot coincide with general economic areas, the
ions of agricultural development must be taken into
leration in examining the zone-forming factors of the
ex areas.

ne past few years cultivation of virgin and long-fallow
has been a common problem facing all parts of Si-
Virgin lands were brought under cultivation through-
e southern zone of Siberia, including the Omsk, Novo-
k, Kemerovo and Irkutsk Regions, and the Krasno-
nd Altai Territories. Among the major grain-grow-
eas is the Kulunda Steppe, southern areas of the Bara-
ppe and the steppe expanses of the Khakassia-Minu-
Depression. In the years of Soviet power Siberia's
rea increased by approximately 3.4 times. At the
nt time Siberia accounts for over 40% of all the mar-
grain produced by the Russian Federation. Siberian
is among the cheapest in the country. The role of Si-
in the output of agricultural products, particularly
will be growing steadily.

unity of the territorial-economic problems of Si-
is reflected in the creation of a ramified transport
rk connecting individual industrial units. The con-
ion of the new Stalinsk-Abakan-Taishet line and the
ification of the Trans-Siberian Railway are of de-
importance. New outlets from the Kuzbas to the
-Siberian Railway are appearing. The system of
unications is further enhanced by the new Barnaul-
and Belovo-Achinsk lines.

Kuzbas is becoming one of the most important com-
s in the fuel-power nucleus of Siberia, striking ever
roots into the economy of the adjoining Siberian
by supplying them with coal, metal, chemicals and
nery in exchange for iron ore, props and equipment.
dustrial environment of the Kuzbas, both in the west
e east, forms its continuation. The Kuzbas-Krasno-
Abakan-Taishet zone is distinguished by its close
ts. First place in the Krasnoiarsk Territory's total
carriage already belongs to the Kemerovo Region,
accounts for 18.7% of the total freight carriage (met-
l, cement, etc.), and to the Irkutsk Region (19.6%).
this point of view the present economic border, di-
the Kuzbas and the southern part of the Krasnoiarsk
ory, Western and Eastern Siberia, should be rejected
dated.

pattern of ties within the coal industry is changing
y in Siberia. In 1957, 70.8 million tons of coal were
in the Kuzbas. About one-quarter of this amount
nsumed on the spot, in Kemerovo Region, and three-
rs were delivered to other areas. First place among
nsumers of Kuznetsk coal is held by the Urals. In
ning years the Urals' share in the consumption of
al will decrease. The total amount of coal to be de-
d to the Urals by the Kuzbas in the period 1959-1965
ns unchanged — nearly 25 million tons (chiefly coking
— but the Urals' share in the consumption of Kuzbas
ill decline from 34% to 25.2%. At the same time its
nption in Kemerovo Region and the adjacent areas
crease twofold.

cal changes are taking place in the pattern of oil de-
s to Siberia. The development of the oil-refining in-
and the pipeline system constitutes a big task for
, too. Prior to the Fifth Five-Year Plan, oil was delivered to Siberia by rail transport. Refining facilities were nonexistent. In recent years a big oil refinery was built in Omsk and a 1,332-kilometer pipeline was laid between Tuimazy and Omsk. During the Seven-Year Plan period two more refineries will be built in Krasnoiarsk and Irkutsk. Work is already in progress on the oil and oil-product pipelines connecting Tuimazy, Omsk, Novosibirsk and Irkutsk. The oil gas produced by the refineries will make it possible to supply gas to a number of Siberian cities, including Omsk, Bogotol, Agarsk and Irkutsk. Coke gas will be used to supply gas to Kuzbas towns.

Thus, a brief examination of the main specific features of Siberia's economic regions and its industrial links makes it clear that a single industrial complex is in the process of formation in Siberia. This complex is formed by a system of industrial units and centers — Irkutsk-Cheremkhovo, Bratsk-Taishet, Krasnoiarsk-Achinsk, Abakan-Minusinsk, Tomsk, Novosibirsk, Kuzbas and Rubtsovsk-Barnaul. Their ties are becoming closer in the process of solving their common economic problems. In the west the complex is joined by the Omsk economic area, and in the east by the Buriat area.

In the coming years the many-sided character of Siberia's economic development will be further enhanced. Siberia will be producing an almost complete assortment of rolled goods, large quantities of nonferrous metals, diverse machines and mechanisms, a wide range of chemical products and consumer goods. Siberia will be able to provide itself with locally-manufactured equipment, metal, cement, glass, roofing material, etc., on an ever-increasing scale. At the same time Siberia's share in the country's national economy will be constantly growing with regard to those items and products which are manufactured in Siberia at lower production costs (electric energy, aluminum, coal, artificial fiber, timber, ferrous metals, etc.). This will be in accord with the task of establishing the most rational and economical territorial organization of the Soviet national economy.

With the development of productive forces the economic differentiation of the entire Siberian territory is becoming more pronounced. Whereas in its central part (Novosibirsk-Kuzbas-Krasnoiarsk) the nucleus of a powerful economic complex of Central Siberia is being formed, the outlying areas of Siberia are being drawn into the sphere of economic influence of the adjacent areas: the growing influence of the Urals in the west and of the Far Eastern economic area in the east.

In the past 18-20 years the importance of the Urals in the Soviet national economy has grown appreciably. Great changes have also taken place in the structure of Urals industry; the share of the machine-building, power-engineering and chemical industries has increased. The growing economic significance of the Urals is accompanied by its growing influence on the adjacent areas of Western Siberia; the Urals' economic borders are being shifted eastward and northward, to the new timber exploitation, fuel and agricultural areas. The Urals' ties with the Tiumen and Kurgan Regions are becoming ever stronger — both regions are being connected with the Urals power system. The machine-building industry of these two regions likewise constitutes an integral part of the Urals machine-building complex. The Shadrinsk automobile assembly works is developing as part of the Urals automobile industry cycle. The Kurgan Region and the south of Tyumen Region form an important agricultural base for the Urals — 80-90% of their animal husbandry products and vegetables are supplied to the Urals. The north of the Ob area, constituting a part of the Tiumen Region, also relies increasingly in its development on the industrial Urals. This is facilitated by the recently completed Trans-Urals Railway (Alapaevsk-Polunochnoe). That is why we regard the inclusion of the Kurgan and Tiumen Regions in the Urals economic-geographical area as an economically justified measure.

On the other hand, the Yakut ASSR and the Chita Region — the easternmost parts of Siberia — are becoming more and more closely associated with the development problems of the Far East as a whole. Our long-range plans envisage the creation, in the eastern parts of the USSR, of the country's fourth iron and steel center based on South Yakut iron-ore deposits and coking coals as well as on the iron-ore resources of the Chita Region.

Thus, the three major economic-geographical areas
Siberia, the Urals and the Far East are taking shape i
east. It is not excluded that these areas may serve as
territorial basis for the scientific elaboration of probl
connected with the economic development of the easter
areas. They may furnish the necessary basis for com
material balance-sheets for different areas, as well a
developing industrial specialization and cooperation an
planning the most rational effective utilization of econ
and transport ties. All this is bound to increase the pr
tivity of social labor.

Note

(1) The conventional computation is based on the me
employed by the UN Committee on Electric Power.

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(Continued From Page 59)

balance may be transferred to the multilateral clearing account; also, separate amounts may be transferred (by mutual agreement) from the accounts of the bilateral agreements to the multilateral clearing account.

Transferring rubles from a bilateral clearing account to a multilateral clearing account means the shifting of purchasing power expressed in rubles among the countries. For instance, transferring Poland's liability of 20 million rubles from the Polish-Rumanian clearing account to the multilateral clearing account means that Poland's obligations to Rumania under the bilateral clearing have been reduced by 20 million rubles; at the same time, Rumania may now pay for commodities valued at that amount received not only from Poland but from any other country in the multilateral clearing system.

For payments on credits and loans, accounts are opened in which the use of the credits and loans, the repayment of debts and payment of interest are recorded. The accounts are kept in rubles, with a separate account opened for each credit, inasmuch as their periods and other terms differ. Credit accounts are closely linked with clearing trade accounts, since credits are usually repaid through the clearing account; in some cases, the granting of a credit is also done through clearing.

Besides trade, credit and loan settlements, among the socialist countries considerable non-commercial settlements are now also made through clearing accounts. Non-commercial settlements include various payments not directly connected with trade, such as the maintenance of diplomatic and trade missions, expenditures for business trips, payments of royalties, payments connected with the arrangement of exhibitions and festivals, the remittance of money for student maintenance, etc. As cultural and other non-commercial relations among the socialist countries expand, so does the sphere of non-commercial settlements.

These are made through non-commercial payments accounts which are clearing accounts in nature, since reciprocal receipts and payments are entered in them.
Non-commercial payments accounts are kept by the ce
tral banks separate from the trade clearing accounts.
This is because of the difference in their economic co
tent. As stated above, trade settlements are made on
basis of world prices and local currencies do not figur
directly in the settlements. But non-commercial accounts are connected with the prices prevailing in eac
country, and local currency is used in the settlements.
Non-commercial accounts are kept in rubles, like the
other clearing accounts, but these rubles are converte
into local currency, since non-commercial expenditure
are made on the territory of the given country in its c
rency. For example, to cover its expenditures to mai
tain its embassy and trade mission in Poland the Sovie
Union transfers a definite sum in rubles to the non-commercial payments account in the Polish national b
and the Polish bank pays out zlotys to the Soviet organi
tions in Warsaw.

The planned character of the national economies an
the economic relations among the socialist countries,
and the state monopoly of foreign trade make it possib
to draw up settlement and payment balances that will
sure a stable system of international settlements amo
these countries. The system of international settleme
among the socialist countries described above makes
stability in their settlement and payment balances. T
is an important advantage of the organization of intern
tional settlements in the socialist camp. In the perio
since the world socialist market came into being the
cialist countries have developed a system of internati
al settlements which is new in content. It is in harmo
with the nature of the relations of socialist production
and ensures the further development of economic ties
among these countries. This system, which is basica
different from the system of international settlements
among the capitalist countries, is constantly being improved. It is contributing more and more effectively
the steady expansion of trade and other relations amo
the socialist countries.